



Oxford Policy Management



# **Bihar Child Support Programme**

## Midline Impact Evaluation Report

**FINAL**

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- The project was managed by Tom Newton-Lewis.
- Development of quantitative survey instruments was undertaken by Aparna John, Giiirja Bahety, Shweta Bahri and Tom Newton-Lewis at the baseline. Apurva Bamezai, Purava Joshi, and Sarthak Joshi updated these for the midline survey.
- Mehjabeen Jagmag, Shruti Viswanathan and Vanika Grover designed the research tools for the first qualitative round of research in line with the mixed methods nature of the report.
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All opinions expressed, and any mistakes, remain the responsibility of the authors.

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## Executive Summary

### About the Bihar Child Support Programme

The Bihar Child Support Programme (BCSP) is a conditional cash transfer pilot being undertaken by the Government of Bihar. It is targeted at pregnant women and mothers of young children, with the aim of reducing maternal and child undernutrition. The BCSP is supported by the Department of International Development (DFID)'s Sector Wide Approach to Strengthening Health (SWASTH) programme.

Under the scheme, women enrol upon completion of the first trimester of pregnancy and receive Rs 250 per month directly into their bank account upon meeting certain conditions for a period of 30 months (i.e. until the child is two years of age). A bonus of Rs 2,000 is also received if the child is not underweight at age two or the mother has not become pregnant again. Therefore, the total maximum value per child is Rs 9,500.

The pilot is being implemented in two blocks in Gaya District, Bihar, and has covered 261 Anganwadi Centres (AWC). There are two additional control blocks for the purpose of the evaluation. One is a "pure" control block. The other has the systems for the delivery of the cash transfer (including the technology system) but without the cash disbursements to beneficiaries, to isolate any independent effects this has on service delivery and outcomes.

In one treatment block, Wazirganj, there are four conditions, known as 'soft' conditions. In the other treatment block, Atri, there are an additional four 'hard' conditions. The conditions are shown on the following diagram, with the soft conditions on the top row:

<b>Soft conditions</b>	 Monthly Attendance at Village Health, Sanitation and Nutrition Days	 Weight Gain Monitoring during Pregnancy	 Child Growth Monitoring	 Correct Treatment of Diarrhoea (ORS and Zinc)
<b>Hard conditions</b>	 Receipt of IFA Supplementation during Pregnancy	 Birth Registration Child weighed at birth	 Exclusive Breastfeeding under 6 months	 Measles Vaccination

The pilot aims to test both the **viability** and the **impact** of the conditional cash transfer.

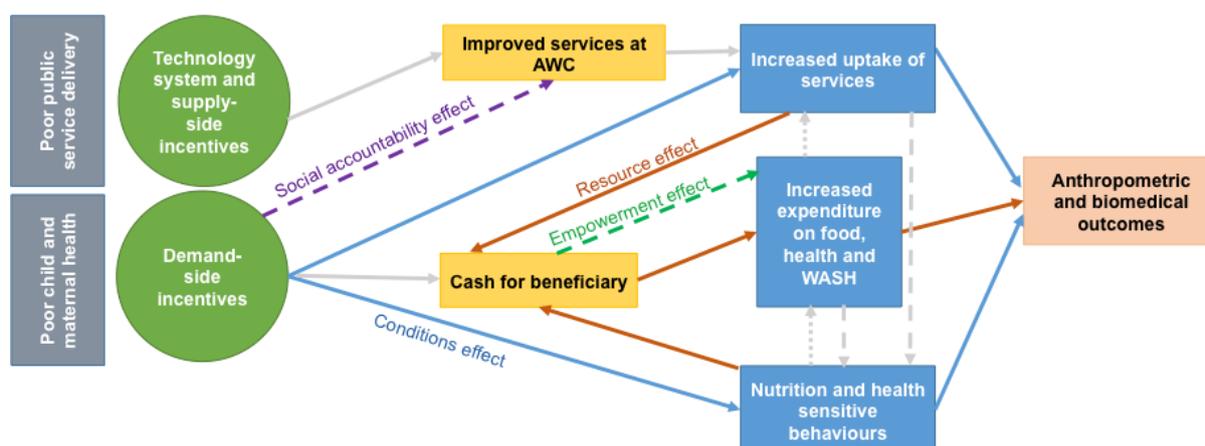
In terms of **viability**, the pilot attempts to answer the question of whether it is feasible for the State Government to implement the high quality systems required to deliver a monthly conditional cash transfer in a way that is scalable and sustainable. This includes systems for

continual enrolment and exit, monitoring of conditions, timely and safe payment with minimal leakage, programme monitoring and grievance redressal.

In terms of **impact**, it is hypothesised that there are four main pathways through which the BCSP may improve maternal and child nutrition outcomes:

- **A resource effect:** whether the additional household income received due to the BCSP is translated into increased expenditure on food (and more nutritious food), healthcare and other pro-nutrition expenditures
- **A conditions effect:** whether beneficiaries change their behaviours and seek out available services in order to meet the conditions; if these services include nutrition counselling, this has a reinforcing effect on behaviours
- **An empowerment effect:** whether the fact that the cash is transferred to the women improves her status within the household and her decision making power, control over resources and time use
- **A social accountability effect:** whether beneficiaries pressure service providers to improve the accessibility and quality of services to enable them to meet the conditions

The following figure is a graphical representation of these pathways to impact:



The BCSP was pre-piloted from August 2013 in ten villages to test and refine the delivery systems and was scaled up to the two treatment blocks in September 2014. By the end of December 2015, the programme's Management Information Systems (MIS) data recorded that 7,826 beneficiaries were enrolled, of which 5,812 (74 per cent of those enrolled) met their monthly condition and received payment.

## Evaluation design

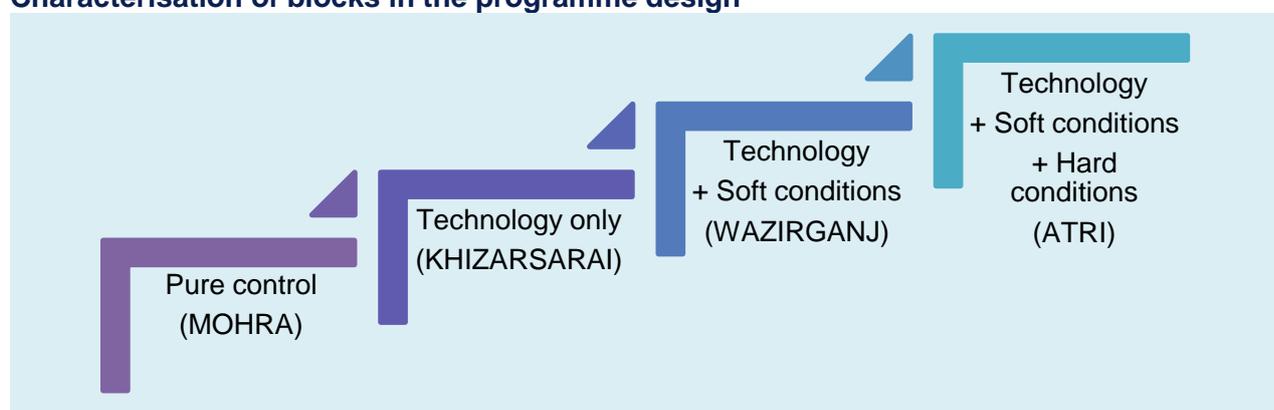
A prospectively designed, mixed methods impact evaluation is being undertaken to generate evidence on the effectiveness, impact and relative cost-effectiveness of BCSP. The primary target of the evaluation is the Government of Bihar, who will make decisions on whether to continue and/or scale up the scheme, as well as the Government of India, who may apply lessons to national schemes. Therefore, the evaluation is primarily focused on learning. A secondary target is DFID as the funder of the evaluation.

Analysis of the findings presented in each chapter has been 'mixed' to present quantitative and qualitative data. Data from each method have been used to triangulate sources and corroborate or refute findings and explain trends where possible. The quantitative and

qualitative research teams have worked closely to analyse and present findings together in the following chapters.

The quantitative evaluation is based on a quasi-experimental design. Four administrative blocks were sequentially matched to be as similar as possible. The first block, Mohra, became the pure control block. The match for Mohra, Khizarsarai, received the same supply side systems as the two treatment blocks (i.e. a mobile phone based monitoring system), but without the cash transfer ('technology only block'). This is to ensure that the effects of this supply side strengthening are isolated from the effects of the cash transfer itself. The best match for Khizarsarai, Wazirganj, received the 'soft' version of the cash transfer ('soft conditions block'). The best match for Wazirganj, Atri, received the 'hard' version of the cash transfer ('hard conditions block'). This four way matching enables the disaggregation of any impact from the cash transfer from the impact of the systems that underpin the cash transfer, as well as the marginal impact of adding in the additional four hard conditions in Atri. The diagram below represents the four blocks and the intervention in each.

### Characterisation of blocks in the programme design



A purer experimental design in the form of a randomisation of treatment at the village or beneficiary level was not possible because of the need to test the ability of Government administrative tiers to deliver the programme in the same way that they would have to if it was scaled. Analysis at the baseline shows that the matching of the blocks was successful in terms of statistical equivalence of key outcomes.

The quantitative evaluation is based on three rounds of a survey of mothers of children aged under two years. The survey, with a sample of 1500 mother-child dyads in each block, is a repeated cross section of a randomly selected sample of mothers from a panel of AWCs (the Primary Sampling Unit). The baseline was conducted in autumn 2014, and the midline was conducted in autumn 2015, after one year of full implementation. The endline is scheduled for autumn 2016. This allows for a difference-in-differences evaluation specification to be undertaken, which is considerably more robust than an evaluation that simply compares levels of key indicators.

The validity of the differences-in-differences model still requires assumptions about parallel trends to hold. Whilst controls have been added to the differences-in-differences regressions, this remains a potential limitation. A second limitation arises from changes to the survey instruments made after the baseline to adapt for changes in programme design, which reduces comparability for a small number of indicators.

At the midline, all children aged under one would have been eligible to enrol for the BCSP, because when enrolment began, all pregnant women in their second and third trimester could enrol, not just those entering their second trimester. Enrolment was lower for these women (mothers of children aged 6-11 months at the midline) because not all of them could open bank accounts before they gave birth and became ineligible to enrol. Secondly, enrolment rates only increased substantially after the first payments were made and the scheme gained greater credibility. For those who did enrol later in pregnancy, they will not have received the full “dose” compared to those who would have enrolled at the start of the second trimester. Because of the lower coverage and incomplete dose for older children in the sample, the midline impact estimates are likely to be an underestimate of true impact.

The baseline survey was a representative sample of children under two years of age. The midline also covers children under two, even though only children under one were eligible for enrolment. The midline analysis, however, is based on comparing under ones, with under ones from the baseline sample. At the endline, it will also be possible to compare the over ones at the midline with the over ones at the endline, as well as the whole baseline sample with the whole endline sample.

The first round of the qualitative evaluation began at the midline. The qualitative investigation took place concurrently with the quantitative survey in autumn 2016. The survey drew a purposive sample of ten villages from three blocks - Wazirganj, Atri and Khizarsarai. Four villages were drawn for Wazirganj and Atri, and two for Khizarsarai. In each village, four beneficiaries, mothers-in-law of two beneficiaries, as well as one Accredited Social Health Activists (ASHA) and Anganwadi Worker (AWW) from the village were interviewed. A total of 80 respondents were interviewed.

A sampling matrix was drawn up for each village, based on census data of population, schedule caste, schedule tribe and literacy rate to ensure that our sample was equitable and representative of the district.

This was analysed against the programme’s data of ‘well’ and ‘poorly’ performing AWCs. These categories were assigned against three criteria, the grade given to the Anganwadi worker by the programme team that was based on her understanding and use of the mobile phone to record the BCSP conditions, the total number of beneficiaries enrolled in each AWC and the percentage of beneficiaries that were able to meet conditions from September 2014 to June 2015, as recorded on the programme’s Management Information System (MIS). June was the last, most comprehensive month for which details were available on the MIS. These criteria were used as a proxy for overall performance of the programme and sample AWWs and ASHAs in selected villages.

From the list of poor and well performing AWCs, a second round of sampling was conducted to select beneficiaries. Based on the beneficiary payment report, a list of beneficiaries was drawn that included their age, number of children as well as days registered versus payments received. Against this list, those beneficiaries who ranked ‘high’ and ‘low’ on meeting conditions were selected. Additional attention was paid to those who had one child, and those who had three or more children, to capture women at different life cycles. In addition, mothers-in-law of women who lived in joint families were also interviewed.

After the interviews were completed, a codebook was drawn based on a thematic framework of the theory of change. Data was coded to test the hypotheses against each of the codes to confirm or refute the programme’s overarching design. All the interview scripts were read to

gain a contextual understanding of the data, in addition, codes were analysed separately to confirm trends and 'mix' data with the quantitative analysis.

## **Key findings: Implementation status**

Whilst awareness levels amongst the surveyed eligible mothers of the programme were relatively high (77 per cent), enrolment amongst mothers of children under one year of age was only 54 per cent. This is partially explained by the fact that enrolment in the initial few months of the programme was relatively low, until the initial cash tranches spurred greater enrolment.

Enrolment was lower for socially excluded groups, especially Scheduled Castes (SCs) (47.5 per cent) and the poorest quintile (31 per cent). Low enrolment can be explained by a mix of factors, including differential rates of awareness of the programme, discrimination by Anganwadi Workers, considerably higher rates of seasonal migration for the poorest households (especially to work in brick kilns), return of first time pregnant women to their natal home, and the generally weaker reach of the Integrated Child Development Services (ICDS) in poorer villages. Only 26 per cent of mothers from households from the poorest two quintiles who were not receiving Take Home Rations under ICDS were able to enrol for the BCSP.

Whilst knowledge that the BCSP required the meeting of conditions was relatively high (75 per cent of those who were aware of BCSP), knowledge of the precise conditions was limited.

Many beneficiaries had to open a bank account for the programme. This was a cumbersome process, with the average beneficiary having to make three trips and 48 per cent having to pay account opening fees, even for zero balance accounts that are supposed to be free. Ultimately, all beneficiaries were able to open accounts so this was not a barrier to enrolment. Beneficiaries report receiving their full entitlement, with the average beneficiary receiving Rs 1,024 in the last six months. Beneficiaries tended to withdraw every couple of months, rather than monthly, due to the cost and time required to visit the bank, and the unwillingness of banks to allow smaller withdrawals. Overall, there is no evidence of leakage. There was no significant difference in the amount received by different social groups.

## **Key findings: Resource effect**

In general, beneficiaries used the cash in a potentially 'pro-nutrition' way, increasing expenditure on food consumption, diversifying that consumption, and also increasing expenditure on healthcare, sanitation/hygiene and childcare. In most cases, the money was kept separate from general household expenditure. Two thirds of beneficiaries reported spending the cash transfer on food for the mother and sixty nine percent on food for the child.

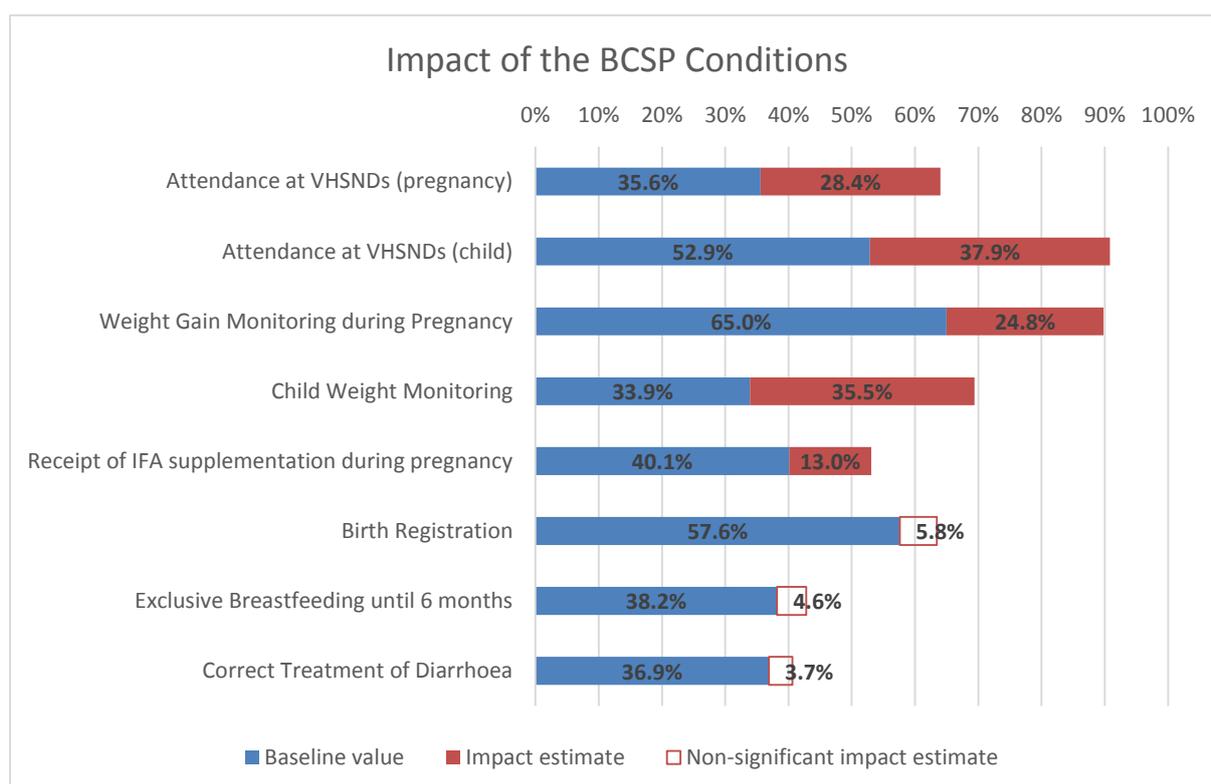
Analysis of household consumption expenditure shows a statistically significant effect of BCSP on weekly per capita expenditure on food (Rs 34). This has been driven by a diversification of food consumption, so that whilst average caloric consumption has not been impacted by the BCSP, the average cost per calorie has increased significantly (by Rs 1.6 per 1000 calories). This has been manifested at the household level by increased consumption of meat, vegetables and sugar, and a substitution away from pulses and edible oils.

This matches responses from the qualitative study, which showed that the additional cash has been spent on fruits, green vegetables, dry fruit, dates and raisins. Many beneficiaries also purchased milk and milk supplements (available in the market). This household level data is matched by significant increases in maternal diet diversity as well as (a small amount of) diversification of child diets as a result of receiving the BCSP, showing that the majority of the benefit accrues to the mother and child. However, IYCF indicators for minimum diet diversity and minimum acceptable diet for children remain very low even in the treatment areas, suggesting that the BCSP cash is relatively ineffective at generating improvements in these areas. Perhaps complementary investments in nutrition counselling would overcome this. Less than one per cent of beneficiaries reported spending the money on alcohol, cigarettes, or general household expenditure.

## Key findings: Conditions effect

The conditions that related to the uptake of services had a strongly significant effect, with large effect sizes. The conditions related to changes in behaviour had no significant effect.

The table below shows the baseline values for the conditions, as well as the impact estimate of the BCSP. The solid bar shows impact estimates that are statistically significant at the 95% level; the hollow bar shows impact estimates that are not statistically significant.



As a result of the BCSP, the proportion of women attending the Village Health Sanitation and Nutrition Day (VHSND) increased by 28 percentage points during pregnancy and by 38 percentage points after birth in the soft conditions block vis-à-vis the only technology block. The average frequency of attendance also increased significantly. Weight gain monitoring during pregnancy increased by 25 percentage points, and child growth monitoring by 36 percentage points. The receipt of IFA supplementation, which was a condition in the hard

conditions block, improved by 13 percentage points vis-à-vis the soft conditions block, although the effect on consumption is unclear.

The effect size for correct treatment of diarrhoea with ORS/Zinc and exclusive breastfeeding for six months was not statistically significant at the midline (although both were directionally positive). These might become significant at the endline when then the comparable sample is bigger and the programme has been operational for longer.

The lack of effectiveness of behavioural conditions can be explained by a lack of understanding of these conditions by beneficiaries and Anganwadi Workers, the fact that these conditions are self-reported and not possible to monitor/verify, and conflicting advice by service providers (both in the public and private sector) and family members.

For the weight monitoring and receipt of IFA supplementation, the meeting of conditions by beneficiaries did not depend on the availability of weighing scales and IFA stock at the Anganwadi Centre; rather, beneficiaries availed of services from higher level public facilities or the private sector where necessary and fulfilled conditions to receive their transfer<sup>1</sup>.

The impact on VHSND attendance and child weight monitoring was substantially larger for richer and higher caste groups. This may suggest that the BCSP was more successful in incentivising better off households who would not have accessed VHSNDs otherwise to do so. However, the impact on weight gain monitoring during pregnancy was substantially higher for poorer groups and scheduled castes, perhaps because they were less likely to already do so from the private sector.

## Key findings: Empowerment effect

In general, there was little evidence that the cash transfer had significant impacts on women's empowerment; one year of implementation is too short to expect to see major changes in intra-household bargaining power, although many women opened bank accounts for the first time for the programme. Women in nuclear families had greater power over decision-making and greater mobility to attend the AWC or go to the market than her counter-parts in joint families. In particular, newly married women had less say in household level decisions over how the cash was spent, compared to their husband and in-laws, and were less able to act with autonomy. Irrespective of the recipient's view on spending the cash herself or letting her family decide how to spend the money, the inquiry probed for and found no instance of increased violence or tension in the household due to the cash transfer.

Difference-in-differences impact estimates found some indicative evidence of increased mobility of women in treatment blocks. Indicators that measure the percent of women who were allowed to go to the market, or to the local health facility alone showed directionally positive signs on coefficients for the soft conditions block. However, no significant impact was detected for either indicator. Given that our study focused on young mothers, less than 50 per cent of women in treatment blocks felt that they could venture out of their household alone, or accompanied, to visit a nearby market or health facility. This figure did not change significantly over the baseline and midline studies.

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<sup>1</sup> Beneficiaries could receive services from any source to meet the programme conditions, as long as it was recorded on their MCP card

## **Key findings: Social accountability effect**

Whilst VHSNDs were conducted nearly universally even in the control areas, the BCSP seems to have been successful at ensuring the attendance of other service providers – Auxiliary Nurse Midwives (ANMs) and Accredited Social Health Activists (ASHAs) at the event. A possible reason for this could be that the attendance of the ANM and the ASHA at the VHSND is recorded on the BCSP application by the AWW, as part of the forms she fills each month. Thus, the AWW might be pressuring the ANM and ASHA to attend the VHSND, and support her if required. There has been no impact on the stock of consumables and equipment in the treatment blocks.

The BCSP is designed to increase the demand for quality services to be delivered on time through the cash transfer, thereby making the AWW more accountable to beneficiaries. The data shows that understanding of programme conditions was generally low. Qualitative interviews found that women were unaware of the services they were entitled to receive, and often relied on the provider to inform them of their entitlements. While bottom-up accountability mechanisms have not been explored in detail, the limited functionality of community monitoring groups (CMG), limited information and limited uptake of certain services are used as a proxy to postulate that accountability mechanisms were not strong at the midline.

## **Key findings: Anthropometric and biomedical outcomes**

The midline only covers children under the age of one; therefore, the effect on child level anthropometric indicators cannot be credibly measured at the midline because of the age-group and the underpowered nature of the survey. This will be measured at the endline. In terms of the maternal anthropometric and biomedical outcomes, BCSP has reduced the underweight prevalence among the mothers of children aged 0-11 months by eight percentage points. The difference-in-differences impact estimates in the case of anaemia prevalence are insignificant, but directionally encouraging.

## **Conclusion**

The midline provides strong validation of the two main transmission mechanisms envisaged in the pathways to impact – that the cash will be used in a way that increases expenditure on food, healthcare, sanitation/hygiene and childcare, and diversifies food consumption – and that the conditions will incentivise the uptake of community health and nutrition services. However, the effect of the conditions on nutrition-sensitive behaviour, caloric intake and IYCF norms is limited. It is too early in the programme, with only one year of full implementation, to adequately assess the other two transmission mechanisms – the social accountability effect or the empowerment effect.

It is also too early to assess the impact on anthropometric and biomedical outcomes for children, although there is already a significant reduction in the proportion of mothers who are underweight.

The analysis shows that there are strong and regressive equity considerations, with mothers from SC households or from the poorest quintile considerably less likely to enrol, and, for most conditions, less likely to change their behaviour. It is expected that enrolment will rise for the

endline; whether this is the case, and whether this makes the scheme more progressive, will be a key area of focus.

No positive independent impact from the technology system by itself, without the cash transfer, was detected. Therefore, it is recommended that the additional “pure” control block is dropped at the endline, as the difference between the technology only block, and the soft conditions block, is likely to capture the full impact of the programme.

It is recommended that the pilot continues until the endline, when impact estimates on anthropometric outcomes for children are available, and scale-up decisions would be better informed.

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## List of abbreviations

ANC	Antenatal Care
ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
ATE	Average Treatment Effect
AWC	Anganwadi Centre
AWW	Anganwadi Worker
BCC	Behaviour Change Communication
BCSP	Bihar Child Support Programme
BL	Baseline
BMGF	Bill and Melinda Gates Foundation
BMI	Body Mass Index
BPL	Below Poverty Line
BTAST	Bihar Technical Assistance and Support Team
CAPI	Computer Assisted Personal Interview
CCT	Conditional Cash Transfer
CDPO	Child Development Project Officer
CHC	Community Health Centre
CMG	Community Monitoring Group
DAC	Development Assistance Committee
DBT	Direct Benefit Transfer
DFID	Department for International Development
DID	Difference-in-differences
DPO	District Programme Manager
GP	Gram Panchayat
GPM	Gram Panchayat Mobiliser
Hb	Haemoglobin
HAZ	Height for Age

HH	Household
ICDS	Integrated Child Development Services
IFA	Iron and Folic Acid
IGMSY	Indira Gandhi Matritva Sahyog Yojana
ITT	Intent to Treat
IYCF	Infant and Young Child Feeding
MAM	Moderate Acute Malnutrition
MDE	Minimum Detectable Effect
MGRS	Multicentre Growth Reference Study
MIS	Management Information System
ML	Midline
NEFT	National Electronic Fund Transfer
NFHS	National Family Health Survey
NFSA	National Food Security Act
NGO	Non-governmental Organization
NRC	Nutritional Rehabilitation Centre
NRHM	National Rural Health Mission
OBC	Other Backward Classes
OECD	Organisation for Economic Co-operation and Development
OPM	Oxford Policy Management
ORS	Oral Rehydration Therapy
PCA	Principal Components Analysis
PHC	Primary Health Centre
PSU	Primary Sampling Unit
Rs.	Rupees
SAM	Severe Acute Malnutrition
SC	Scheduled Caste
ST	Scheduled Tribe

SWASTH	Sector Wide Approach to Strengthening Health
SWD	Social Welfare Department
THR	Take Home Ration
UN	United Nations
UNICEF	United Nations Children’s Fund
USAID	United States Agency for International Development
VHSND	Village Health Sanitation and Nutrition Day
vs.	<i>versus</i>
WAZ	Weight for Age
WHZ	Weight for Height
WHO	World Health Organization

# 1 Introduction

## 1.1 The context

The **Bihar Child Support Programme (BCSP)** is a **conditional cash transfer (CCT)** pilot being undertaken by the Government of Bihar. It is targeted at pregnant women and mothers of young children, with the aim of reducing maternal and child undernutrition. The BCSP is supported by the Department of International Development (DFID)'s Sector Wide Approach to Strengthening Health (SWASTH) programme. The pilot is being implemented in two Blocks in Gaya District, Bihar, covering 261 Anganwadi Centres (AWC) while there are two control Blocks for the evaluating the impact of the programme.

In recent years, the continued high rate of child undernutrition in India has become an important policy issue at central and state level, and has received significantly greater focus amongst academics and researchers.<sup>2</sup> This reflects a renewed interest in the issue globally, culminating in the headline 2013 Series on Maternal and Child Nutrition published in *The Lancet*<sup>3</sup>, based around the understanding that child undernutrition has irreversible long run consequences for mental and physical development.

Child malnutrition rates in the state have declined over the past decade but remain high in absolute terms. According to recent data from the latest National Family Health Survey 2015-16 (NFHS– 4)<sup>4</sup>, 49.3 per cent, 20.8 per cent and 44.6 per cent of children under five years of age in rural Bihar were stunted, wasted and underweight, respectively.<sup>5</sup> This is not a problem peculiar to Bihar; malnutrition rates across all of south Asia are stubbornly high, and higher than much poorer countries in sub-Saharan Africa. This is acknowledged to be the 'South Asian enigma'.

The Government of India passed the National Food Security Act (NFSA) in September 2013 in keeping with the considerations about poor indicators of well-being of children and women in terms of health and nutrition. Under the NFSA, there are broadly "three types of legal entitlements, namely, food grains, meals and cash transfers. The Act specifies that the food grains are to be provided through the Targeted Public Distribution System (TPDS), meals through the Integrated Child Development Services (ICDS) and school mid-day meal programmes, and the cash maternity benefit through a scheme as the central government would prescribe."<sup>6</sup> According to the NFSA, every pregnant and lactating woman is entitled to not less than Rs. 6000 while the operational definitions and details are left to the discretion of the Government of India. While this cash maternity benefit has still not been implemented, there has been an ongoing pilot CCT called the Indira Gandhi Matritva Sahyog Yojana (IGMSY) with indications that IGMSY will be scaled up to a universal scheme under NFSA. In terms of conditionality, there are a lot of similarities with respect to choice of conditions between the IGMSY and BCSP. With this NFSA mandate, there may be important lessons from the BCSP pilot that can inform the conditionalities and frequency of transfers for the scale-up of the IGMSY or a new maternity cash benefit.

The BCSP is a pilot programme that explores whether or not a CCT could be a cost-effective policy instrument to reduce child under-nutrition. CCTs have been piloted and implemented globally in the

<sup>2</sup> Haddad, L. (2013)

<sup>3</sup> Black, R. E., et al. (2013)

<sup>4</sup> International Institute for Population Sciences. (2016)

<sup>5</sup> The corresponding numbers for Gaya district of Bihar where the BCSP pilot is being implemented are 53.5 per cent, 26.6 per cent, and 54 per cent, respectively.

<sup>6</sup> Falcao, V. L., et al (2015)

last decade, although the evidence base on their effectiveness is generally mixed, especially around the benefits of conditionality.<sup>7</sup>

The BCSP is also an opportunity to contribute to the current national debate on the merits of CCTs in India.<sup>8</sup> This debate has been given momentum by the demonstrated logistical and implementation issues with existing schemes. However, there is a limited evidence base within India over the potential merits of cash transfers. Furthermore, many States in India have rushed out cash transfers without developing safe and effective systems for registration of beneficiaries, monitoring of conditions and distributing cash. The BCSP is an opportunity to develop a “**best practice**” standard of cash transfer implementation that can be a beacon to all other schemes, using cutting edge technology.

It is also expected that the results can inform the efforts of other Development Partners including the nutrition systems strengthening work in Bihar of the Bill and Melinda Gates Foundation (Bihar Technical Support Programme) and the World Bank (ICDS Systems Strengthening & Nutrition Improvement Project).

In the context of CCTs in India and specifically in a state like Bihar, the primary purpose of the BCSP pilot is to test the **viability** of developing a high quality system to deliver cash with minimal leakages and maximum transparency, whilst efficiently and effectively monitoring the meeting of conditions by beneficiaries and building on existing ICDS structures/systems to reduce operational costs.

The second purpose of the BCSP pilot is to learn, through a rigorous **impact** evaluation whether cash transfers are an effective lever on maternal and child health and nutrition outcomes. What else could be done to maximise the impact of such CCT programmes?

The key design parameters of the programme are discussed below:

## 1.2 Key design parameters

### 1.2.1 Geographical coverage and timeline

The BCSP is being implemented in two blocks in Gaya District, namely, Atri and Wazirganj. It began as a pre-pilot programme in August 2013, followed by implementation of the pilot in September 2014, and will continue until at least April 2016. There are two variants of the conditions being tested in the two blocks with two additional control blocks, namely, Khizarsarai and Mohra, wherein the former has only the BCSP technology system with no conditions or cash transfers and the latter is a pure control block. The selection of the blocks was done as part of the quasi-experimental evaluation design and the methodology for the same will be discussed in Chapter 3.

### 1.2.2 Beneficiaries of the programme; equity and inclusion

The BCSP pilot is targeted at pregnant women and children, and all pregnant women are eligible for the scheme from the 4th month of pregnancy onwards. By the end of December 2015, 7,826 beneficiaries were enrolled, of which 5,812 met their monthly condition and received payment (74%). Chapter 4 analyses the coverage of the programme. There was no additional targeting (e.g. on poverty status); and women who were excluded from other services were eligible to enrol.

<sup>7</sup> Manley, J., Gitter, S., & Slavchevska, V. (2012)

<sup>8</sup> Mehrotra, S. (2010)

### 1.2.3 Conditions

Beneficiaries are eligible for a **monthly payment** of Rs.250 between the end of the first trimester of pregnancy and the child's second birthday (a total of 30 months). In addition, there is a **birth spacing bonus** in Wazirganj and a **child growth bonus** in Atri. In Wazirganj, the beneficiaries will receive a birth spacing bonus of Rs. 2000 if they have not become pregnant again 24 months after giving birth. Similarly, in Atri, the beneficiaries will receive a bonus of Rs. 2000 for the child's weight being normal i.e. child not being underweight at the age of 24 months. Therefore, the BCSP can be worth up to Rs. 9,500 per beneficiary.

The transfer is **conditional** in order to channel health- and nutrition-sensitive behaviour. The conditions relate to the uptake of government provided community nutrition services (through monthly Village Health, Sanitation and Nutrition Days (VHSND)) and certain pro-nutrition and health behaviours. They have been chosen based on the following parameters:

- **Realistic** – is it realistic to think that a cash transfer can change the behaviour of beneficiaries?
- **Feasible** – are there ways for beneficiaries to meet the conditions – i.e. does the supply side exist or is it possible to easily improve it? Is it in control of the programme implementers? Ideally there would be flexibility as well with multiple sources of provision
- **Practical** – can the conditions be measured and monitored without too much scope for discretion and opportunities for corruption?
- **Impactful** – are the conditions promoting behaviours or services that have proven levels of efficacy in terms of improving nutrition outcomes?

In both blocks, the transfer is conditional on women attending **Village Health, Sanitation and Nutrition Days** (VHSND) every month and a set of additional conditions. In the first block, there are “soft” conditions like weight monitoring during pregnancy, child growth monitoring and ORS administration. In the second block, there are “hard” conditions in addition to the “soft” conditions where women will also be required to receive certain services, particularly around weight and growth monitoring of pregnant women and children, IFA supplementation for mothers, and appropriate treatment for diarrhoea. The conditions are shown in Figure 1.1 and explained in detail in Chapter 6.

**Figure 1.1 Conditions associated with the cash transfer**

<b>Soft conditions</b>	 <p>Monthly Attendance at Village Health, Sanitation and Nutrition Days</p>	 <p>Weight Gain Monitoring during Pregnancy</p>	 <p>Child Growth Monitoring</p>	 <p>Correct Treatment of Diarrhoea (ORS and Zinc)</p>
<b>Hard conditions</b>	 <p>Receipt of IFA Supplementation during Pregnancy</p>	 <p>Birth Registration</p>	 <p>Exclusive Breastfeeding under 6 months</p>	 <p>Measles Vaccination</p>

One of the pathways to impact assumed in the theory of change of the BCSP is that cash payments can augment the liquidity of the households and increase their consumption expenditure. In addition to impacts on aggregate consumption, BCSP is also expected to specifically increase food consumption in line with the nutrition counselling provided at VHSNDs as well as the fact that the transfers are targeted at women who are likely to utilize the transfers differently. For the BCSP, **monthly payments** were chosen over quarterly (or less frequent) payments because the global evidence suggests that small predictable transfers are more likely to be converted into consumption expenditure than less frequent and lumpy transfers.<sup>9</sup>

The BCSP design had set the value of **Rs. 250 as the monthly cash benefit** in line with the expected revision of the ICDS budget which was expected to rise from the current Rs. 125 to Rs. 250 for each pregnant and lactating mother. Additionally, this amount is equivalent to one-third of per capita monthly food consumption expenditure<sup>10</sup>, and this was in line with the global evidence that suggests that one-third is the minimum required for a cash transfer to have an impact.<sup>11,12</sup>

The **Anganwadi Worker (AWW)** is the fulcrum of the BCSP as she is responsible for registering beneficiaries, reporting on their receipt of conditions and providing some of the services that the conditions are based on. The AWW is provided with a mobile phone upon which a **BCSP application** is pre-loaded. She is responsible for registering beneficiaries, and recording their adherence to conditions, using a customised mobile phone application.

Data are automatically transmitted to a server, which generates payment lists.

The BCSP staff verifies these payment lists, before passing them onto the Child Development Project Officers (CDPOs) who are responsible for signing off block level payment lists, and the District Programme Officer (DPO) who is responsible for compiled payment lists.

<sup>9</sup> Haushofer, J., & Shapiro, J. (2013)

<sup>10</sup> Oxford Policy Management. (2014)

<sup>11</sup> Arnold, C., Conway, T., & Greenslade, M. (2011)

<sup>12</sup> Note that general poverty targeting cash transfers which seek to affect the whole household require one third of total monthly household consumption expenditure; a cash transfer targeted at the individual requires one third of per capita monthly consumption expenditure

Funds for the programme are held in the DPO's official bank account and an instruction is given to the bank to execute the payments, which are made through direct bank transfers using National Electronic Funds Transfer (NEFT). The State Government transfers funds in advance to the DPO based on utilisation certificates of previous expenditure. This ensures that cash is delivered on time (within 20 days of the end of the month), leakages and fraud are minimised through using banks' own systems of verification for enrolment and withdrawal, and transaction costs are kept low. Once the concerned officials have approved of the payment lists, the money is transferred to the beneficiaries' accounts. If services are not available at a particular Village Health, Sanitation and Nutrition Day (VHSND), the conditions are relaxed so that the beneficiary is not penalised.

The entire process is summarised in Figure 1.2.

**Figure 1.2 Payment process of the CCT**



The AWW receives **incentive payments** (Rs. 100 per month for a successful VHSND service availability form, and Rs 5 for every growth monitoring data record) to ensure that they complete their duties under the BCSP. The incentive structure is designed so that AWWs have strong incentives to report truthfully and not over-state service provision. AWW incentives are based on inputs (submitting data) and not outputs (apart from growth monitoring) or outcomes. They are incentivised only if the children are reported to be “green” on their respective growth charts and they are not paid any differently based on the number of beneficiaries meeting conditions. Apart from the frequency of weight monitoring of pregnant women and growth monitoring of children, they do not have incentives to overstate outputs or outcomes. The mobile phone application is also meant to enable the Anganwadi Worker to improve her own **service delivery** through a case management tool and having pre-installed Behavioural Change Communication (BCC) messages that can be played to beneficiaries. Furthermore, when she enters growth monitoring data, it tells the AWW the nutritional status of the child (e.g. severely under-weight) and give appropriate instructions (e.g. refer to the Nutrition Rehabilitation Centre (NRC)). The server has the ability to automatically send text message alerts to beneficiaries, either with BCC messages or time specific alerts about the need for or the receipt of services. Unfortunately, this functionality is not live yet due to delayed procurement of a vendor.

The BCSP is being delivered using **Government systems** operating under the Social Welfare Department (SWD). To support these, and to not over-burden existing Government individuals and agencies, additional external project staff was hired at various levels. This required externally provided management support to the Government to facilitate and coordinate implementation.

The **District Programme Officer (ICDS)** has the overall responsibility for the BCSP implementation. He or she is assisted by an externally hired Project Coordinator who is responsible for working with CDPOs as well as externally hired Block Coordinators and the Technology System and Information Manager to deliver the BCSP. In addition, BTAST provided an **Implementation Support Agency** to support the management and implementation of the BCSP at all levels.

At the ground-level, there are multiple tiers of oversight, monitoring and grievance redressal. A **Gram Panchayat Mobiliser (GPM)** has been recruited for every Gram Panchayat in the programme

treatment block. The GPMs are meant to act as an interface between the AWWs and the BCSP staff. Initially, their role included providing support to the Community Monitoring Groups, assisting AWWs during VHSNDs, and notifying Lady Supervisors of any problems. As the programme rolled out, the GPMs' role expanded to assisting the AWWs in managing the technology requirements of the BCSP, including first line problem solving and hand-holding support.

Additionally, **Community Monitoring Groups** (CMGs) have been formed in each village. These were formed from existing structures, such as Self-Help Groups, to minimize set-up costs. They are meant to attend the VHSND and monitor the programme, mobilise community members to enrol on the scheme and attend VHSNDs, monitor reporting and be the first line of grievance redressal at the community level. **Lady Supervisors** are responsible for ensuring effective implementation in their defined area, including coordinating VHSND Micro-Plans, verifying grievances where necessary and supporting GP Mobilisers.

The BCSP pilot is predominantly funded through the **Financial Assistance grant provided to the Government of Bihar** by DFID's SWASTH programme, and expenditures are made directly by the Government. The Government is responsible for funding the cash disbursements and associated incentive payments to Anganwadi Workers and payment providers. It was also responsible for procuring mobile phone handsets for Anganwadi Workers and funding the talktime costs of data transfer.

**SWASTH** is funding all other costs of the pilot, including the development and maintenance of the technology system, implementation support, community awareness programmes and administrative expenses.

Since the BCSP is an impact evaluation of a pilot programme being implemented by the Bihar Government, it does not fall under the mandate of the Paris Declaration, an action oriented roadmap to improve the quality of aid and its impact on development<sup>13</sup>.

### 1.3 Evaluation

A **mixed methods impact evaluation** is being undertaken alongside the pilot, to generate evidence on the questions of effectiveness, impact and relative cost-effectiveness. The primary **target** of the evaluation is the Government of Bihar, who will make decisions on whether to continue and/or scale up the scheme, as well as the Government of India, who may apply lessons to national schemes. Therefore, the evaluation is primarily focused on learning. The evaluation design was undertaken in 2013 in partnership with Government stakeholders, with the Government having final sign-off on the design document. A presentation of the draft evaluation findings have been shared with the Government of Bihar and Government of India – Ministry of Women and Child Development. A secondary target is DFID as the funder of the evaluation. A round of iteration has been undertaken based on feedback from DFID India.

A baseline population survey, covering 6,600 households, was undertaken in 2013, a quantitative midline survey was completed in October 2015, and a qualitative study was conducted in tandem with the midline survey.

The quantitative evaluation uses a **quasi-experimental design**, comparing blocks receiving treatment with matched blocks not receiving treatment. A separate block just receiving the technology underpinning the cash transfer is also included for evaluation purposes, to see the

<sup>13</sup> OECD Development Assistance Committee. (2005).

relative importance of this compared to the demand side incentive, as it is likely to independently improve outcomes through supply side improvements.

The impact evaluation primarily seeks to ascertain whether there has been any change in the value of the evaluation indicators as a result of the BCSP monthly cash transfer. The impact evaluation is meant to be based on measuring these indicators both before the introduction of the BCSP monthly cash transfer – the baseline – and after its introduction. The end line, and changes in the value of the indicators in the treatment and control groups, will then be compared – this is a **difference-in-differences approach**.

Chapter 3 details the evaluation methodology.

This **midline mixed methods report** is intended to be of use to the following audiences:

- *Government of Bihar, Government of India, other governments, foundations and NGOs*; interested in understanding various issues in **operationalising a CCT at scale** as well as the **impact of a CCT on uptake of services and nutrition-sensitive behaviours**
- *DFID, the funding agency*; interested in **maximising the value for money in international development** initiatives and **contributing to the global literature** on both the efficacy and the effectiveness of CCTs in general but those that aim to improve nutritional outcomes in particular
- *The BCSP implementation team*; which has the ability to assimilate the **learnings and feedback** based on the first year of the implementation to support plans to improve its performance in the remainder of the entire programme

## 1.4 Structure of the report

The report is divided into *ten chapters*.

This, the *Chapter 1*, provides the details about the key design parameters of BCSP, and has briefly discussed the objectives and intended audience of this evaluation report.

*Chapter 2* discusses the BCSP pathways to impact, the likely magnitude of impact and compares the programme with the latest understanding of the nutrition evidence base.

*Chapter 3* discusses the impact evaluation methodology employed, both quantitative and qualitative. A section on mixing the two methods is included. Ethical, equity and inclusion considerations are discussed in this chapter and so are the limitations, biases and the mitigation strategy to account for them.

Figures related to the implementation status, registration, and knowledge of the programme are presented in *Chapter 4*. *Chapter 5* to *Chapter 8* delve into the various effects and pathways to impact that are set out in the *Chapter 2*.

*Chapter 9* presents the anthropometric and Haemoglobin results for mothers in addition to discussing the reasons for not including difference-in-differences impact estimates for child nutrition outcomes.

To end the report, *Chapter 10* provides some concluding remarks about the impact of the programme on various outcome and impact indicators and also some implications for programme design as well as evaluation design.

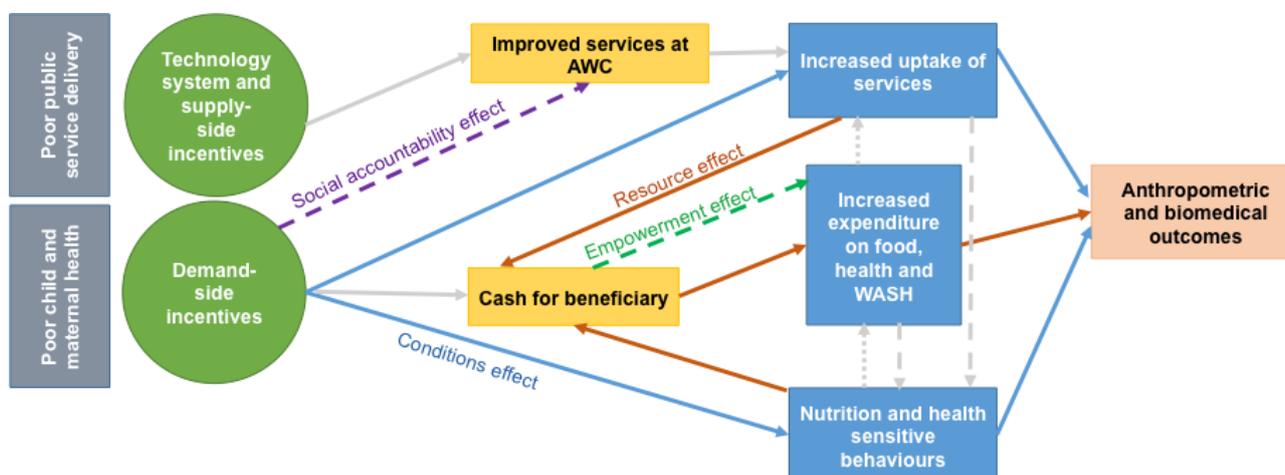
## 2 BCSP: Pathways to impact

The ultimate aim of the programme is to achieve impact through reduced maternal and child undernutrition. There are several pathways through which this could happen. The potential “pathways to impact” that the BCSP may have, which have been tested through the evaluation, include:

- **A resource effect:** whether the additional household income received due to the BCSP is translated into increased expenditure on food (and more nutritious food), healthcare and other pro-nutrition expenditures.
- **A conditions effect:** whether beneficiaries change their behaviours and seek out available services in order to fulfil the conditions and receive the money. If the services provided including nutrition counselling, this can reinforce the effect on behaviours.
- **An empowerment effect:** whether the fact that the cash is transferred to the women improves her status within the household and her decision making power, control over resources and time use.
- **A social accountability effect:** whether beneficiaries pressure service providers to improve the accessibility and quality of services to enable them to meet the conditions.

Figure 2.1 is a graphical depiction of these pathways to impact. While the grey boxes specify the problem that the BCSP is trying to solve, the pathways from the inputs in green circles to the impact indicators of anthropometric and biomedical outcomes are shown through arrows.

**Figure 2.1 BCSP pathways to impact**



Each of these effects have multiple assumptions underpinning the expected chain from inputs to impact. The one underlying assumption is that the mechanics of the cash transfer work smoothly; i.e. that the right amount of cash is disbursed to the right people at the right time, with minimum fiduciary risk, leakage or transaction costs (e.g. expenditure on transport to reach the bank to withdraw the money). The other assumptions are detailed in Sections 2.1 - 2.4.

Apart from testing these pathways of impact, the evaluation also explores compliance with the OECD – DAC criteria for evaluations (relevance, effectiveness, efficiency, impact and sustainability).<sup>14</sup> In particular, the midline addresses the criteria of relevance, effectiveness and impact. Questions

<sup>14</sup> OECD Development Assistance Committee. (2005).

around efficiency and sustainability would be addressed through a cost-effectiveness study and the endline survey. This is described in more detail in Annexe B.

## 2.1 Resource effect

The programme works through the direct transfer of cash to beneficiaries that they receive after they meet the conditions related to uptake of services and adoption health and nutrition-sensitive behaviours. This could further improve the nutrition status of women and children by increasing expenditure on things that improve nutrition status, including food consumption, which increases the caloric intake of beneficiaries or improves micronutrient intake, or other goods and services which improve nutrition outcomes (e.g. health services and medicines which reduce caloric wastage).

The BCSP is predicated on the idea that a small, routine and predictable cash transfer is more likely to be spent on consumption than a lumpy, infrequent larger value cash transfer (such as IGMSY) where, due to credit market imperfections, expenditure tends to be higher on asset investment rather than consumption.<sup>15</sup>

The BCSP has been calculated based on the “rule of thumb” that a cash transfer will only have significant effects on outcomes if it is at least one third of household consumption expenditure.<sup>16</sup> The translation of household level income into improved nutrition outcomes can come through increased expenditure on food, or expenditure on other nutrition enhancing expenditure items, such as soap, or visits to the doctor in the case of diarrhoea. The translation of increased income into increased caloric intake is not straightforward. In general, it is believed that for every additional 1 Rs a household receives, only 70 per cent is spent on food, and of this half is spent on increasing caloric intake and half on substituting towards higher cost calories (like sugar rather than cereals).<sup>17</sup> Therefore, only 35 per cent on average is translated into increasing caloric intake (although the substitution effects may improve micronutrient intake). This is for the household as a whole; the increment that goes to the mother and child could be a fraction of this (and the impacts on child nutrition outcomes if the child is breastfeeding would be minimal). Therefore, the strength of this transmission mechanism on the desired programme impacts may not be high. An additional benefit may come if the transfer reduces negative consumption smoothing strategies (e.g. skipping meals) for households through an insurance function if households do not have other means to achieve this. This midline report does not test this but a module on shocks and coping strategies was included in the midline survey and it will be possible to compare at the endline.

## 2.2 Conditions effect

### 2.2.1 Uptake of services

Some conditions attached to the transfer are designed to encourage the uptake of services available under ICDS that could promote improved nutrition outcomes. These include:

- Monthly attendance at Village Health Sanitation and Nutrition Days/Village Immunisation Days
- Weight gain monitoring of pregnant women
- Growth monitoring of children
- The taking of Iron and Folic Acid (IFA) tablets by pregnant women
- Registration of child at birth

<sup>15</sup> Manley, J., Gitter, S., & Slavchevska, V. (2012)

<sup>16</sup> Arnold, C., Conway, T., & Greenslade, M. (2011)

<sup>17</sup> Deaton, A., & Drèze, J. (2009)

- Measles vaccination

There are several assumptions that would need to be fulfilled for these conditions to impact on nutrition outcomes. Firstly, the value of the cash transfer has to be sufficient to induce an increased demand for services. The elasticity of demand will depend on the quality of services available, as well as the out of pocket costs (e.g. of transport) of accessing them. It also requires that the services are available, so that the increase in demand can be realised. The services need to be of the appropriate quality to translate into improved health and nutrition outcomes.

At the time of the midline survey, very few children registered under BCSP were in the eligible age group for being provided the Measles vaccine; the impact of this condition will be tested at the endline.

## 2.2.2 Nutrition-related behaviours

The rest of the conditions attached to the transfer are designed to incentivise changes in household and individual behaviour in ways that improve nutrition outcomes. These include the treatment of diarrhoea with ORS, and, in the hard conditions block, promoting exclusive breastfeeding until six months. The birth spacing bonus is also designed to encourage beneficiaries to increase the spacing time between births.

There are various programmatic assumptions underpinning this transmission mechanism – that Anganwadi Workers and beneficiaries understand the conditions and that the monitoring system is able to adequately record data on whether the conditions are being met.

In terms of impacts, the ORS condition assumes that ORS packets are available (although a salt and sugar solution is sufficient); that the taking of ORS actually reduces the effects of diarrhoea (which is unclear if they are mixed with dirty water) and that the value of the cash transfer is enough to induce behaviour change.

For the breastfeeding condition to have an impact also assumes that the value of the cash transfer is enough to induce behaviour change. It also assumes that women are physically able to breastfeed. This is discussed in more detail in the relevant chapter but is a complex assumption; many women find it difficult to breastfeed, especially when they are malnourished and don't initiate early breastfeeding, and what might be good in the aggregate may not be best for the individual.

The effectiveness of the birth spacing bonus depends on the magnitude of the incentive being enough to change behaviour, which will be influenced by intra-household issues (the beneficiary receiving the cash may not have control over sexual decision making) as well as the availability of family planning methods and awareness of their existence and how they should be used.

The rationale behind introducing an outcome condition i.e. the child growth bonus, in the programme design is that a CCT programme cannot influence all the outputs required to cause substantial impact on the final programme outcomes, measured in this case through child nutrition outcomes, because not all outputs are possible to monitor or measurable, e.g. exclusive breastfeeding for six months, complementary feeding, etc. This outcome bonus is being piloted in the revised design to test the impact of putting the responsibility of adopting behaviours and outputs necessary for improved child nutrition outcomes on mothers and families instead of relying entirely on health and nutrition frontline workers.

## 2.3 Empowerment effect

As per the BCSP design, the registered pregnant / lactating woman is the direct recipient of the cash. The intended outcome of this is to increase the degree of autonomy and empowerment of the women in the household. This could improve maternal and child nutrition outcomes through changing intra-household resource allocation, especially with respect to expenditure on food, health and WASH, and changing the way that the different household members allocate their time in a way that favours child care.

There may also be an effect through intra-household dynamics. This may have an empowering effect and influence the intra-household distribution in favour of mothers and children, assuming mothers have inherently different preferences towards intra-household distribution. It may also change the pattern of activities in the household such that mothers have increased time for nutrition enhancing activities (such as breastfeeding or kangaroo mother care) if, for example, the cash transfer reduces the amount of time women have to spend working.

The literature on domestic conflict and violence associated with cash transfers is, however, quite ambiguous and mixed results across studies in various geographies are briefly discussed in Section 2.6.

## 2.4 Social accountability effect

The investments of the programme (including ensuring the availability of weighing scales, training and incentivising Anganwadi Workers and the provision of the mobile phone based performance management system) may influence nutrition outcomes through improving the quality and coverage of the supply of nutrition relevant services. Furthermore, the conditionality of the programme may increase the demand for timely and quality services, and promote improved service delivery through social accountability. The strength of these transmission mechanisms will depend on the relative magnitude of the supply side improvements compared to the existing deficiencies.

There are certain additional loops in the described pathways to impact – the uptake of services as well as health- and nutrition-sensitive behaviour can lead to and can also be the by-product of increased cash availability at the household level for expenditure on pregnant women, lactating mothers and young children.

## 2.5 The likely magnitude of the effect

The above has shown that the BCSP may improve final nutrition outcomes through a variety of direct and indirect transmission mechanisms; although these are all predicated on multiple assumptions that will be measured and tested as part of the evaluation. It is also important to note that there are many other determinants of nutrition outcomes that are not covered by the BCSP because they would not be appropriate conditions for a cash transfer. These confounding factors include the age of first pregnancy for mothers; the quality of the sanitation infrastructure and the quality and coverage of health providers.

The international experience of cash transfers suggests that whilst conditional cash transfers tend to be effective at increasing the uptake of health and nutrition services, the extent to which this is translated into improved final outcomes is highly mixed, and tends to be higher in contexts where the quality and coverage of service delivery is relatively strong<sup>18</sup>.

<sup>18</sup> Glassman, A., Todd, J., & Gaarder, M. (2009)

Most of the available evidence comes from Latin America where some of the big success stories include Colombia<sup>19</sup>, which found a 6.9 per cent relative reduction in stunting for children under the age of 2, Nicaragua<sup>20</sup> which found a net reduction of 5.5 percentage points in underweight children under 5 after 2 years of the programme and Mexico<sup>21</sup> which found that the prevalence of stunting amongst children under 3 reduced by 7.3 percentage points.

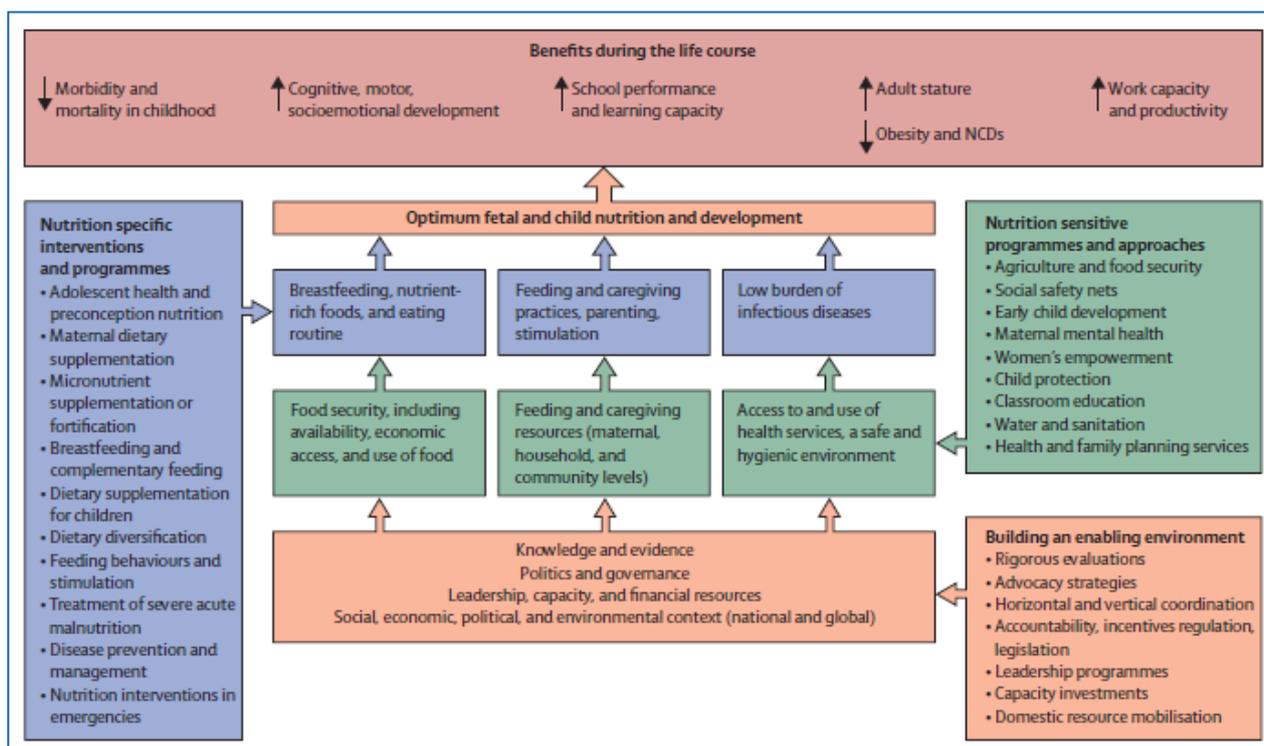
These kinds of magnitude have been replicated outside of Latin America, although the evidence from South Asia is limited. A recent Impact Evaluation of the Mchinji Social Cash Transfer Pilot in Zambia by USAID, UNICEF and Boston University found that after 1 year, the difference-in-differences impact estimates of BMI for underweight adults was 2.5 percentage points, for wasting in children it was 2.2 percentage points, for stunting it was 4.2 percentage points and for underweight it was 10.5 percentage points.

There are reasons to think that a similar magnitude of effect may be realistic for the BCSP, especially given the high baseline rates of malnutrition, suggesting significant potential gains. However, malnutrition rates have been stubbornly high in India and do not tend to show rapid changes; and the confounding factors, especially around sanitation and hygiene, are considerable. The evaluation has been designed around an expected reduction in rates of malnutrition of five percentage points.

## 2.6 Comparing the programme with the latest understanding of the nutrition evidence base

The Lancet series of 2013 uses the following framework for understanding interventions aimed at reducing undernutrition:

**Figure 2.2: The Lancet framework for understanding interventions aimed at reducing undernutrition**



<sup>19</sup> Attanasio, O. P., Maro, V. D., & Vera-Hernández, M. (2013)

<sup>20</sup> Maluccio, J., & Flores, R. (2005)

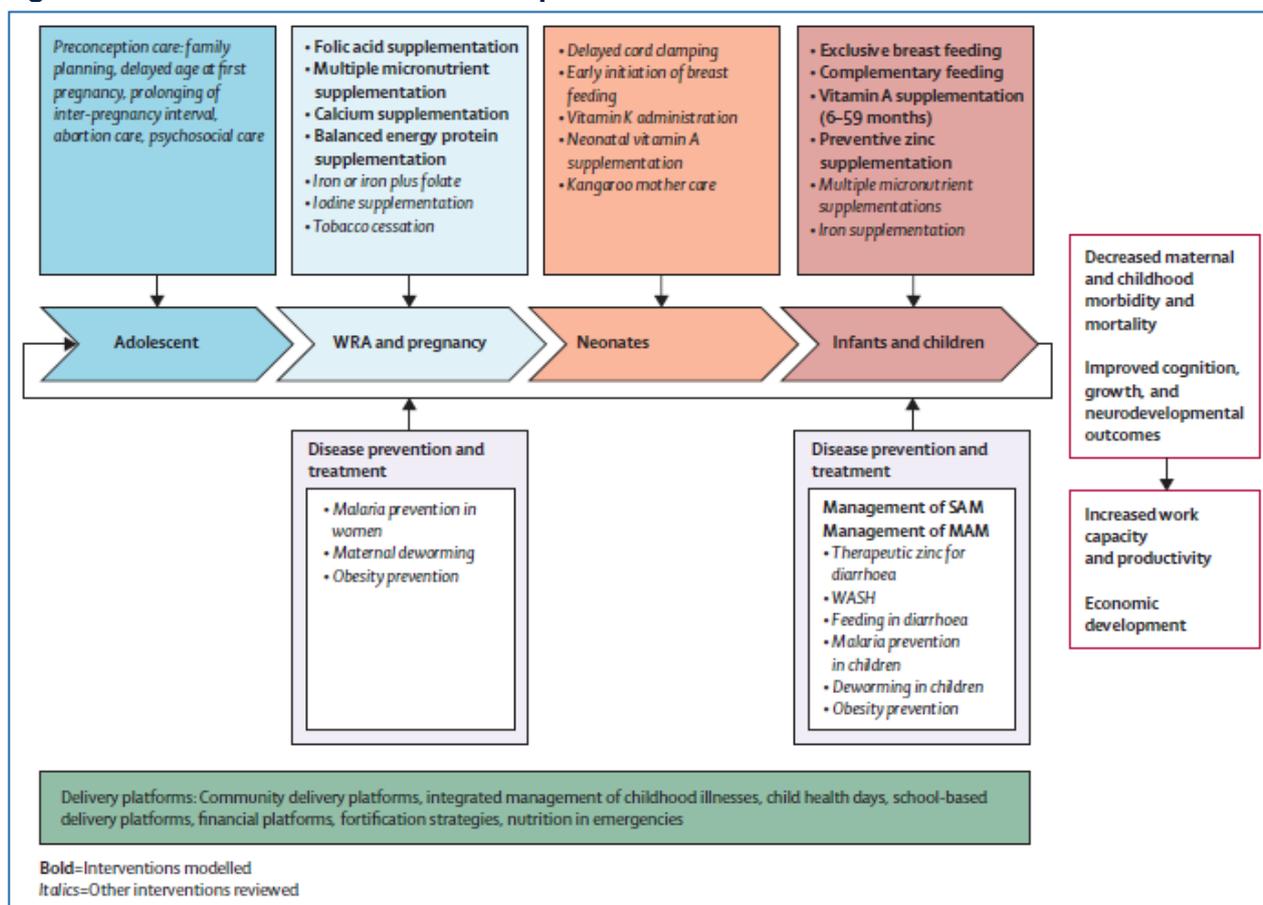
<sup>21</sup> Hoddinott, J., & Bassett, L. (2008)

The Lancet framework “outlines the dietary, behavioural and health determinants of optimum nutrition, growth and development, and how they are affected by underlying food security, caregiving resources and environmental conditions, which are in turn shaped by economic and social conditions, national and global contexts, capacity, resources and governance”.

The BCSP cuts across this framework as it includes focus on both nutrition **specific** interventions that address the immediate causes of sub-optimum growth and development (through the conditions) as well as nutrition **sensitive** programmes and approaches which address the underlying determinants of malnutrition.

The conditions attached to the BCSP, especially the provision of IFA supplementation to pregnant women, the promotion of breastfeeding and the identification of SAM and MAM children through the growth monitoring, are in line with the most effective at improving nutrition outcomes identified by The Lancet series. They also cut across the whole lifecycle of beneficiaries as per the classification of nutrition specific interventions identified in The Lancet:

**Figure 2.3: Classification of nutrition specific interventions**



A recent UNICEF report, de Groot, R. et al (2015)<sup>22</sup>, examined the available evidence of the impact of cash transfers on the underlying and immediate determinants of nutritional status considering food security, health and care pathways.

The review of literature included all cash transfer programmes, not only conditional or in the domain of health and nutrition. Nearly all the studies reviewed are from Latin American and African countries.

<sup>22</sup> de Groot, R., Palermo, T., Handa, S., Ragno, L.P. and Peterman, A. (2015)

The findings summarised below are classified under underlying determinants and immediate determinants affecting child nutritional status:

## 1. Underlying determinants affecting child nutritional status

- *Cash transfer programmes have a positive effect on resources for food security.* Evidence from African and Latin American countries shows that the cash transfer programmes led to an increase in household consumption and that the majority of the additional income from the transfer was spent on food. There was an increase in household diet diversity and the increased income was used to purchase more nutritious food.
- *Cash transfer programmes have a positive effect on resources for health.* OPM's evaluation of the Kenya Hunger Safety and Safety Net Programme (2012) revealed that there was a positive impact on preventive healthcare visits and antenatal care seeking. Similar findings emerged from Malawi and Mexico.
- *Cash transfer programmes have a positive effect on better hygiene & probability of using improved sanitation or water resources.*
- *The effect of cash transfer programmes on resources for care is understudied.*
- *The impact of cash transfer programmes on women's empowerment is positive based on qualitative evidence but there exists mixed quantitative evidence on this, potentially because of the difficulties in measurement of a complex construct like empowerment.* There are also mixed results on domestic violence with evidence showing decrease in physical and emotional violence in Peru, decrease in emotional violence and controlling behaviours for women educated beyond primary level but no effect on physical violence in Ecuador, reduced physical violence but increased violent threats in Mexico, and reduction in physical and sexual violence in Western Kenya. Consistent with this evidence on intimate partner violence, the latest study by Hidrobo et al (2016)<sup>23</sup> also finds that transfers decrease the probability that women experience controlling behaviours, moderate physical violence, and any physical or sexual violence by 6 to 7 percentage points in Ecuador.

## 2. Immediate determinants affecting child nutritional status

- *There is mixed evidence on the impact of cash transfer programmes on children's dietary diversity.* Studies reviewed did not find any increase in caloric intake of young children, though one study found that the number of days, when children consumed more nutritious food, increased.
- *There is mixed evidence on the impact of cash transfer programmes on children's health status.* Some studies, however, did find effects on diarrhoea and acute respiratory infections. The findings on effects on vaccination coverage is also mixed.
- *There is mixed evidence on the direct impact of cash transfer programmes on child nutrition status.* While there was a positive impact in countries such as South Africa, Zambia, and Sri Lanka, the evidence was mixed in Malawi. In a cash transfer programme in Ecuador, there was an impact of the programme but it was similar to the ordinary household income effect.

<sup>23</sup> Hidrobo, M., Peterman, A. and Heise, L. (2016)

**A lot of the studies measure nutrition outcomes but pathways are not examined in most cases.** This makes it very difficult to identify the reasons why cash transfer programmes impact nutrition outcomes in some contexts and not in some others.

BCSP is, therefore, an opportunity to test the pathways to impact, and the endline survey will contribute to a comprehensive analysis of its impact and particularly the pathways to the same.

### 3 Impact evaluation methodology

A prospectively designed, mixed methods impact evaluation is being undertaken to analyse the effects of BCSP. This chapter provides the details of the quantitative and qualitative methodology with a note on how the two methodologies were mixed for the sake of a comprehensive report. It also discusses the limitations and biases that arose at different stages of collecting and analysing data and how those have been addressed. The chapter concludes with a section on the ethical, equity and inclusion considerations that were made part of the evaluation.

#### 3.1 Quantitative methodology

##### 3.1.1 Difference-in-differences impact analysis methodology

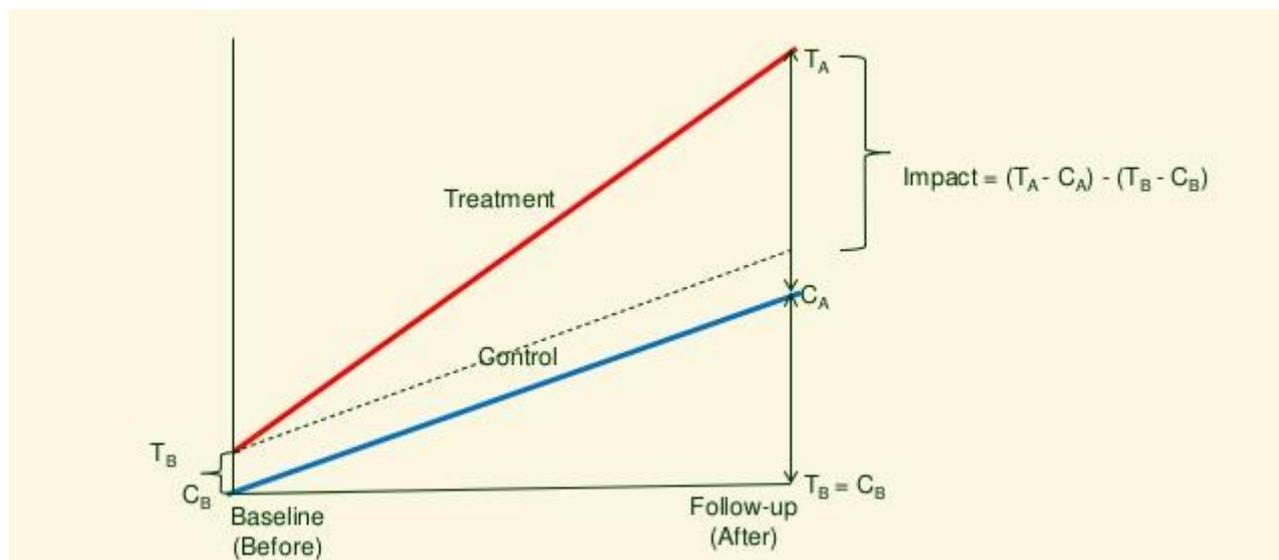
The quantitative evaluation is based on a **quasi-experimental design**. A purer experimental design in the form of a randomisation of treatment at the village or beneficiary level was not possible because of the need to test the ability of Government administrative tiers to deliver the programme in the same way that they would have to if it was scaled. The method for selection of administrative units called ‘blocks’ for the BCSP pilot is discussed in Section 3.1.2.

The quantitative impact analysis presented in this report is based on the **difference-in-differences (DID) methodology** in order to establish causal attribution of impact of the programme on key indicators<sup>24</sup>, which is considerably more robust than an evaluation that simply compares their levels. Impact is estimated by comparing changes in key indicators in the treatment blocks with changes in the control blocks. The underlying assumption here is that of ‘parallel trends’, which posits that the average change in the comparison group represents the counterfactual change that would happen in the treatment group if there were no treatment. Figure 3.1 below illustrates this set-up, the green dotted line being the assumed ‘parallel’ trajectory for treatment outcomes in the absence of treatment.

The difference in how those indicators changed in the treated group vs. the control group is assumed to be due to the intervention, i.e. the impact of the programme. Households in the control blocks, which did not receive the payment, provide a measure of what would have been expected to have happened to beneficiary households had they not received the cash transfer. The difference-in-differences measure thus captures the difference between treatment blocks at baseline and midline, minus the difference between control blocks at baseline and midline. This constitutes the primary measure of programme impact. (See Figure 3.1.)

We employ **intent to treat (ITT) estimation** in our analysis, which ignores noncompliance, protocol deviations, withdrawal, and anything that happens after treatment has been assigned. The ITT estimator is widely considered to be an important impact estimator when trying to determine the impact of the programme in a ‘real world’ scenario. Within treatment blocks, all pregnant women and mother/child dyads in our sample were eligible to be part of our programme, and hence, were “intended” to be treated, regardless of whether or not they actually received treatment. This ITT estimate would be smaller than the average treatment effect (ATE), because the ATE is calculated based on the assumption of perfect compliance. Please refer to Annexe C.1 for the impact estimation model. Figure 3.1 illustrates the difference-in-differences estimate of average treatment effect.

<sup>24</sup> The key impact indicators are stunting, wasting and underweight rates of children under two years of age, maternal underweight, and maternal anaemia.

**Figure 3.1 Illustrating the difference-in-differences estimate of treatment effect**

Source: Presentation on Project Impact Evaluation Methods by Dr. Akhter U. Ahmed (International Food Policy Research Institute) at the Knowledge, Tools and Lessons for Informing the Design and Implementation of Food Security Strategies in Asia Conference, Kathmandu (2011)

### 3.1.2 Selection of blocks

Comparing changes to key indicators between different geographic units across time using the difference-in-differences method runs the risk of producing biased or misleading results if there are systematic differences between the geographic areas or confounding factors unrelated to the programme that influence the key indicators unequally across the different areas (thus violating the parallel trends assumption).

Implementation of the programme was designed to minimize this bias. At the baseline stage, blocks were selected based on a **matching** algorithm that “paired” blocks that were as similar as possible. Econometrically, matching was not done on the evaluation indicators. Rather, it was done on factors that may have had a confounding effect on these indicators. The number of matching factors were kept limited to avoid over-specification and only continuous scale variables were used. The following variables were considered:

- Female literacy
- Population per Anganwadi Worker (to proxy service delivery)
- Anganwadi Worker per Lady Supervisor (to proxy supervisory levels)
- Average population per village (to proxy population density)
- Proportion of socially excluded groups (SCs), who may face differential access to services due to discrimination
- Male: female population ratio as a proxy for migration

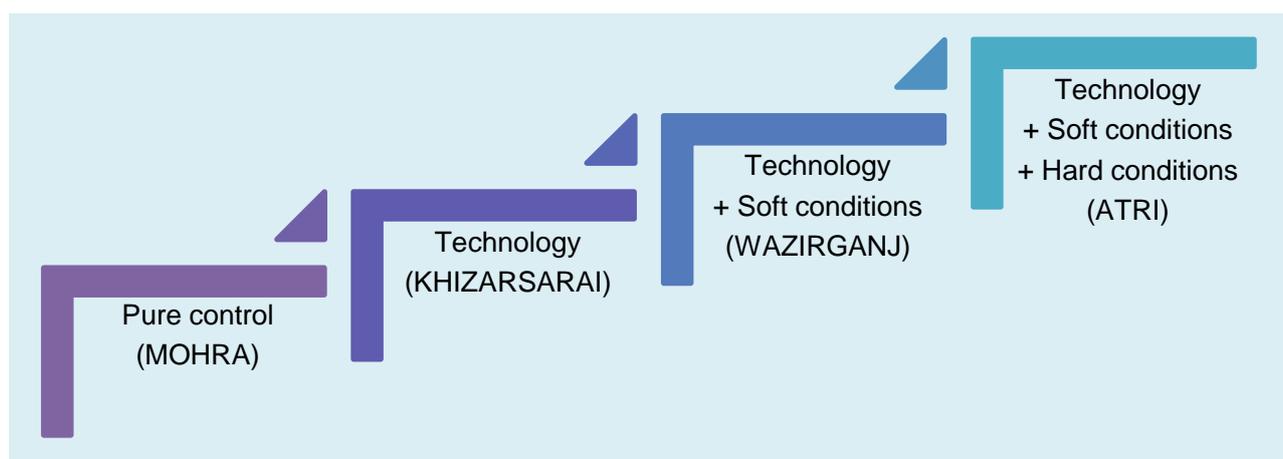
This was achieved using information from the 2011 Census, internal data of the SWD and manually collected data from the CDPOs.

Based on this matching exercise, the first block, Mohra, became the ‘pure control block’. The match for Mohra, Khizarsarai, received the same supply side systems as the two treatment blocks (i.e. a mobile phone based monitoring system), but without the cash transfer (‘only technology block’). The best match for Khizarsarai, Wazirganj, received the ‘soft’ version of the cash transfer (‘soft conditions block’). The best match for Wazirganj, Atri, received the ‘hard’ version of the cash transfer (‘hard conditions block’). Essentially, the four blocks can be characterised as the following:

- **Pure control block** – where there is no cash transfer or mobile phone application to improve service delivery
- **Control block (with technology system)** - where there is no cash transfer but the Anganwadi workers will be using the mobile phone application to improve service delivery
- **Treatment block 1**- where there is cash transfer conditional upon soft conditions
- **Treatment block 2**- where there is cash transfer conditional upon hard conditions

Figure 3.2 is a diagrammatic representation of the step-wise nature of the treatment.

**Figure 3.2 Characterisation of blocks in the programme design**



This four-way matching enables the disaggregation of any impact from the cash transfer from the impact of the systems that underpin the cash transfer, as well as the marginal impact of adding in the additional four hard conditions in Atri. **Having two control blocks allows the evaluation to distinguish between the effect of the cash transfer and the effect of the technology system, and to evaluate whether the technology system could work without the demand- and supply-side cash incentives to glue the system together.** Analysis at the baseline shows that the matching of the blocks was successful in terms of statistical equivalence of the key impact indicators.

The validity of the difference-in-differences model requires assumptions about parallel trends to hold. Whilst **PSU-level and household-level controls have been added to the differences-in-differences regressions**, this remains a potential limitation. A second limitation arises from changes to the survey instruments made after the baseline to adapt for changes in programme design, which reduces comparability for a small number of indicators. Please refer to Annexe C.2 for a discussion on the robustness check carried out and the list of controls used.

### 3.1.3 Respondents and survey instruments

In order to test the pathways to impact discussed in Chapter 2, households with women who have children in the 0-2 years age group were sampled and there were questionnaires administered to the women about the household, herself, her eligible child (at least one or more), and the programme, and anthropometric measurements were taken for the women and her eligible children. Two additional questionnaires were administered – one to the AWW and one to a village-level representative who could provide general information about the Primary Sampling Unit (PSU), i.e. the AWC catchment area (Table 3.1).

**Table 3.1 Respondents and survey instruments**

Respondents and survey instruments	
Respondent	Survey instruments
Woman (with at least one child under the age of 2 years)	<ol style="list-style-type: none"> <li>1. Household questionnaire</li> <li>2. Woman questionnaire</li> <li>3. Child questionnaire</li> <li>4. BCSP questionnaire</li> <li>5. Anthropometric survey (including anthropometric measurements of the mother and her children under 2 years of age and haemoglobin measurement for only the mother)</li> </ol>
Anganwadi Centre (AWC) catchment area representative (headman, school principal, AWW, ASHA)	<ol style="list-style-type: none"> <li>6. Primary Sampling Unit (PSU) questionnaire</li> </ol>
Anganwadi Worker (AWW)	<ol style="list-style-type: none"> <li>7. AWW questionnaire (including a module on BCSP)</li> </ol>

### 3.1.4 Survey rounds

The quantitative evaluation is based on data collected in **three cross-sectional rounds** of a survey of mothers of children aged two years or younger where households were sampled from the same PSUs across the baseline and midline surveys. The survey, with a sample of 1500 mother-child dyads in each of the four blocks, is a repeated cross section of a randomly selected sample of mothers from a panel of AWCs (the Primary Sampling Unit). The baseline was conducted in July-September 2013, and the **midline was conducted in August-October 2015**, after one year of full programme implementation (besides the pre-pilot phase). The endline is scheduled for July-September 2016.

The midline data collection exercise started on 7<sup>th</sup> August, 2015 in Mohra, before continuing on to Khizarsarai, Wazirganj, and the first calls on sampled households ending on 22<sup>nd</sup> September, 2015 in Atri. Since there was a shortfall in the number of households found during the first round of visits, a second round was done, including revisits and first calls on additionally sampled households, from 7<sup>th</sup> October till 30<sup>th</sup> October, 2015. This round was spread over 3 weeks due to the festival season and legislative assembly election in the state of Bihar. A detailed field movement plan is attached in Annexe C.3.

For information on the manner in which data collection was planned, teams set up, questionnaires administered and quality assurance mechanisms implemented, please see Annexe C.4.

### 3.1.5 Sample size considerations for midline survey

At the core of calculation of the sample size of households (one eligible mother per household) is the need for the sample size to be large enough so that the measured impact of the programme is statistically significant; i.e. we can prove that the observed impact is genuine. Therefore, to calculate sample size, we have to start by calculating what is the level of change that we expect to see from the BCSP monthly cash transfer (especially for the impact indicators), and then make sure that if we observed that change in our surveys, the sample size is enough for us to be certain that this change is statistically significant. This essentially means picking the sample size such that the desired change is greater than the **Minimum Detectable Effect (MDE)**. The required sample size will depend on the required **MDE** which is essentially the smallest amount of impact that, if observed, we will be able to say that it is statistically significant from zero (i.e. not just a measurement error).

Based on National Family Health Survey (NFHS) trends and international experience of similar programmes, we had suggested that an **appropriate MDE would be 5 percentage points for all four headline indicators**. This means that if we observed a 5 percentage point change in the value of one of the indicators amongst our sample, we would be confident enough (in terms of formal statistics, 95% confident) that the indicator value had changed for the whole population. A bigger change was seen to be unrealistic within 30-36 months of the programme implementation, especially when many of the other drivers of the outcome indicators (such as, nutritional status, standard of living and underlying patterns of discrimination and education amongst potential beneficiaries) are not in the programme control. Annexe C.5 for more details.

### 3.1.6 Sampling strategy

The need for comparability across survey rounds calls for the design and development of a sampling strategy for the midline stage of the evaluation in line with the sampling strategy adopted for the baseline stage. This was in turn based on the evaluation framework, which comprises four different treatment/ control blocks. The purpose was to get representative results at the block level for each of them.

#### 3.1.6.1 Selection of blocks

The baseline survey was conducted in four selected blocks – two **treatment** blocks, one **control** block, and one **pure control** block. As mentioned above, the blocks were then matched in pairs according to a step-wise matching procedure that ensured the most similar blocks were selected as **control** and **pure control** for the two treatment blocks.

Given the robustness of this sampling approach and the intention of undertaking an inter-temporal analysis based on a counterfactual based methodology, the **same four blocks** were used as the first point of reference for the sampling strategy.

#### 3.1.6.2 Primary Sampling Unit (PSU)

The **PSU** for the survey remained the **AWC**. The evaluation design is based on a **repeated cross-section** due to children dropping out of the age bracket. The same AWCs were selected, so as to control for this analytical cluster level. These **AWCs were randomly sampled within each of the 4 blocks** from the list of total functional AWCs compiled at the baseline stage. The same list of AWCs was selected for the midline survey. A total of 220 AWCs were sampled; 55 in each block.

#### 3.1.6.3 Selection of households

As for the midline survey, households were sampled from each AWC (**35 households after oversampling**) using random sampling based on the relevant household list (based on the existence of at least one eligible woman) drawn within each cluster. There was an equal probability of households with eligible woman/women being selected but only one woman per household was selected for the survey.

Please refer to Annexe C.6 for the sampling protocol used for the midline survey.

### 3.1.7 Sample completion

Overall, 220 PSUs were covered. Within these, **6023 households** and **210 AWWs** were surveyed.

A total of 210 out of 220 AWWs were interviewed. The reasons for this shortfall include vacant AWW posts, the AWW not being available or on leave (even after three follow up visits), and a strike of AWWs during our survey in Mohra. A total of 215 PSU questionnaires were administered; the shortfall of 5 occurred because there were two PSUs belonging to the same area, or, because key respondents were not available.

**Table 3.2 Overall sample completion**

Overall Sample Completion		
	Total Expected	Total Actual
Blocks covered	4	4
Total number of PSUs covered	220	220
Total number of PSU questionnaires administered	220	215
Total number of AWW questionnaires administered	220	210
Total number of Household questionnaires administered	6000	6023
Total number of households where child anthropometric measurements completed	6000	5937
Total number of maternal anthropometric and haemoglobin measurements completed	6000	5864
Source: BCSP Midline Survey 2015		

The details on the overall sample completion and the final midline sample size achieved are in Annexe C.7.

### 3.1.8 Weights

In order to obtain estimates of key indicators that are representative at the block level, data was analysed using sampling weights that were equal to the inverse of the probability of an observation to be selected into the sample. This consisted of calculating the probabilities of selection of a household over the two stages of sampling; selecting a PSU within a block, and selecting a household within a PSU. Weights were appropriately normalised for each sub-population under consideration. Annexe C.8 provides further explanation of the methods used to calculate sampling weights.

### 3.1.9 Post data collection: validity checks at entry, cleaning and analysis

**Data entry:** The quantitative baseline survey was conducted using Computer Assisted Personal Interviewing (CAPI) technology. Data from the survey questionnaires was directly entered into a programme designed in CSPro. Field supervisors, trained by OPM, oversaw the work of the field enumerators and helped resolve any issues on-the-spot. Besides, the data-entry programme was incorporated with a number of rigorous checks (including ranges, values, skip and consistency checks), to minimise any errors.

**Data cleaning:** On completion of collection and entry, the data was periodically sent to the OPM office in New Delhi. All surveyed units – PSUs, households and individuals -- were uniquely identified by ID codes. The data was then cleaned using Stata 14<sup>25</sup>, where the checks mentioned above were verified as well as logical consistency checks undertaken. Any errors in the data were resolved by confirming the resolution with the field team wherever possible.

<sup>25</sup> StataCorp. (2015)

**Data analysis:** Once the datasets had been cleaned, appropriate sampling weights were incorporated into the PSU, household, woman and child datasets, in order to obtain estimates. These were calculated taking into account the probability of selection of the unit. The sampling weights have been discussed in Section 3.1.8. Thereafter, analysis was implemented taking into account the sampling structure of the survey.<sup>26</sup> All analysis was conducted using Stata 14.

### 3.1.10 Restricting the sample for midline analysis

At the midline, all children aged under one would have been eligible to enrol for the BCSP, because when enrolment was opened, all pregnant women in their second and third trimester could enrol, not just those entering their second trimester. Like the baseline survey, the midline survey also covers children under two, even though only children under one were eligible for enrolment. **The midline analysis is based on comparing under ones, with under ones from the baseline sample. At the endline, it will also be possible to compare the over ones at the midline with the over ones at the endline, as well as the whole baseline sample with the whole endline sample.**

However, impact estimates for children under ones presented in this report are likely to be an underestimate of true impact for programmatic reasons. Firstly, enrolment was lower for these women (mothers of children aged 6-11 months at the midline) because not all of them could open bank accounts before they gave birth and became ineligible to enrol by giving birth. Secondly, enrolment rates only increased substantially after the first payments were made and the scheme gained greater credibility. For those who did enrol later in pregnancy, they will not have received the full “dose” compared to those who would have enrolled at the start of the second trimester.

### 3.1.11 Analysing the DID for the *only technology* and *pure control* blocks

Conceptually, a true study of programme effectiveness would compare the soft conditions CCT with a pure control block because the technology systems effect is part of the programme. If the technology systems have an independent effect, then comparing the soft conditions CCT with the only technology control block would be an underestimate of programme impact. However, it is critical to isolate the effect of the technology systems themselves because if they have a big effect, they could be introduced without the CCT for a much lower cost.

The main impact estimates presented in the report are for the marginal impact of adding in the conditional cash transfer on top of the implementation systems; i.e. comparing the “soft conditions” block with the “technology only” block, and the hard conditions block with the soft conditions block.

Analysis comparing the technology only block and the pure control block shows no positive impacts of the technology system without the cash transfer. Therefore, any impact measured between the soft conditions block and the technology only block is likely to capture the “full” impact of the programme. It is therefore recommended that the pure control block is dropped from the endline as it will not generate additional information for impact calculations, and dropping it can reduce the cost of the evaluation.

### 3.1.12 How to read tables

In this report, three types of tables are presented. Their formats are as follows:

<sup>26</sup> While analysing the datasets with weights incorporated, the ‘svy’ commands in Stata, with adequate specification of clustering, were used to ensure that all tabulations and graphs incorporated the correct survey set-up and weights.

1. **At midline:** These tables present levels of indicators at the midline stage, disaggregated by blocks. Each estimate is presented as the proportion (or mean, when specified) of the indicator, with the standard error in brackets, and the 'N' value, below the estimate in this order. The results of pairwise t-tests for differences are presented using significance stars on the estimate in each column with respect to the column on the right.

**At midline: Challenges faced in BCSP cash transfer withdrawal from bank accounts (for all respondents who are BCSP beneficiaries and have at least one child under 1 year of age)**

Outcome/ Indicator	Hard conditions	Soft conditions
Beneficiaries who reported facing challenges while withdrawing BCSP cash	16.9%**	9.4%
	[0.031]	[0.022]
	295	292

Source: BCSP Midline Survey (Aug - Nov 2015).

Notes: (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design.

The above table tells us that 16.9 per cent of all beneficiaries in the hard conditions block faced challenges while withdrawing BCSP cash. This proportion is significantly higher (at the 95 per cent level) than the corresponding proportion of beneficiaries who faced such challenges in the soft conditions block (9.4 per cent).

2. **Midline vs Baseline:** These tables present levels of indicators in different blocks, at the baseline and midline stage. Each estimate is presented as the proportion (or mean, when specified) of the indicator, with the standard error in brackets, and the 'N' value, below the estimate in this order. Significance tests compare proportions or means between the baseline and midline stage for each block. The results of pairwise t-tests for differences are presented using significance stars on the estimate in each column with respect to the column on the right.

**ML vs BL: Indicators related to conditions on the uptake of services**

Outcome/ Indicator	Hard conditions		Soft conditions		Only Technology		Pure Control	
	BL	ML	BL	ML	BL	ML	BL	ML
<b>VHSND attendance</b>								
Women who attended the VHSND at least once during their last pregnancy	29.5%	47%***	36.4%	49.1%***	46.2%	29.7%***	32.1%	21.8%***
	[0.033]	[0.036]	[0.028]	[0.032]	[0.033]	[0.034]	[0.024]	[0.023]
	627	882	675	878	654	802	610	718

Source: BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015).

Notes: (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design.

The above table shows that in the hard conditions block, for instance, VHSND attendance increased from 29.5 per cent to 47 per cent between the baseline and midline; this increase was significant at the 99 per cent level. On the other hand, in the only technology block, VHSND attendance fell from 46 per cent to 30 per cent between the baseline and midline; this decrease was significant at the 99 per cent level.

3. **DID:** These tables present the difference-in-differences impact measures – the difference between midline and baseline for treatment households minus the corresponding difference for control households. We present estimates that reveal impact of the BCSP in a step wise manner,

comparing the hard conditions block to the soft conditions block and the soft conditions block to the only technology block. Estimates from these comparisons reveal the isolated impact of introducing hard conditions and introducing the CCT with soft conditions, respectively.

<b>DID: Women with personal bank accounts (for respondents with at least one child under 1 year of age)</b>		
<b>Outcome/ Indicator</b>	<b>Hard conditions vs. Soft conditions</b>	<b>Soft conditions vs. Only technology</b>
	<b>Dif 1 - Dif 2</b>	<b>Dif 2 - Dif 3</b>
Women with personal bank accounts	0.0308	0.250***
	(0.0416)	(0.0416)

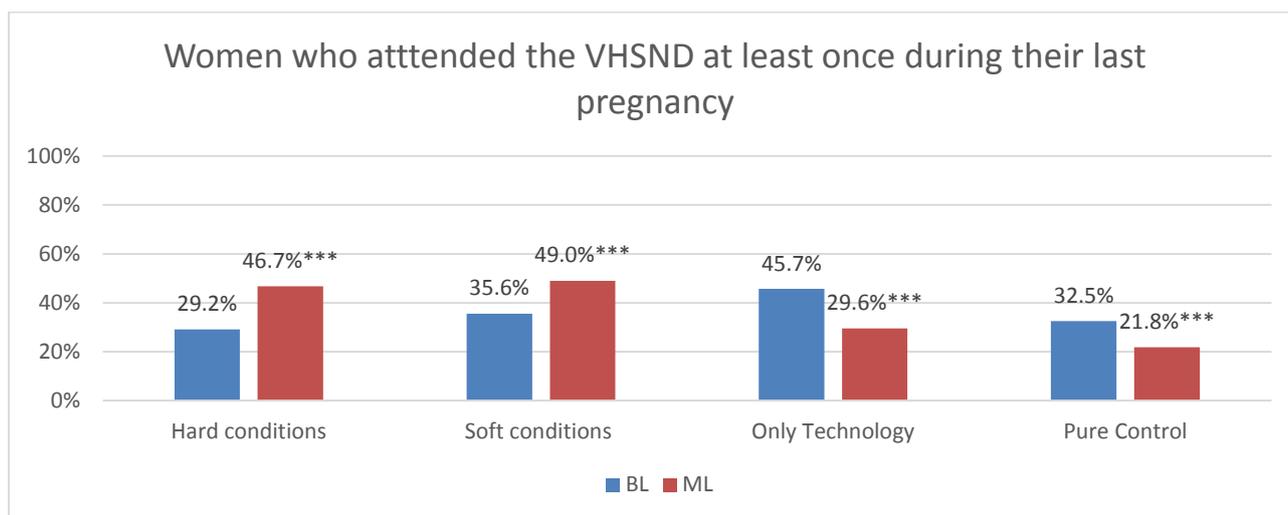
**Source:** BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Nov 2015).  
**Notes:** (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* =95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) The figures for the above indicators should be multiplied by 100 to be interpreted as percentage points. For instance, 0.25 should be interpreted as 25 percentage points.

All significant differences are denoted in these tables by three (\*\*\*) , two (\*\*) or one (\*) asterisks, signifying differences at 99 per cent, 95 per cent and 90 per cent confidence, respectively. It is important to note, however, that where results are not asterisked, it does not mean that there is no difference between the groups but rather that any difference cannot be asserted with a high degree of confidence (90 per cent or more). The estimates presented in DID tables relate to percentage points. When indicated in the table footnote, the figure in the indicator needs to be multiplied by 100 to interpret it in percentage points; for instance, in the second column of the table above, 0.250 equates to 25.0 percentage points. This can be interpreted as: because of the BCSP, 25 percentage points more women in the soft conditions block had opened personal bank accounts between the baseline and midline surveys, compared to the only technology block. The standard error is presented in brackets below this estimate. N's are not stated for DID estimates.

All percentages in the report are presented up to one decimal point. Whilst describing these figures in the text, they are rounded off to the nearest whole number (up if 0.5 or more and down if less than 0.5). If a statistic is between 0 and 1 (for example, 0.4 or 0.5), then one decimal point is retained in the text as well. In cases where the indicator is not a percentage (for example, if a mean value is presented), the unit of measurement has been specified.

### 3.1.13 How to read graphs

The majority of graphs in this report follow the following template:



**Source:** BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015). For more information, please refer to Annexe G.1.2.

Values at baseline are denoted in blue, and values at midline in red. Asterisks on midline figures denote the usual meaning of a significant difference between the baseline and the midline values at the 90 per cent, 95 per cent and 99 per cent level for one, two and three asterisks, respectively. The source at the bottom of the graph points to the annexe table where detailed figures for the indicator under consideration can be found.

## 3.2 Qualitative methodology

This is the first round of qualitative assessment of the impact of the programme. The qualitative study design drew from the theory-of-change and the project's baseline evaluation report, and was informed by both early observations of the programme functioning on the ground and conversations with the programme team.

The qualitative study strengthens the evaluation's ability to test the programme's key hypotheses:

### **BCSP improves nutrition of both mother and child**

To understand the impact of a predictable yet small sum of money going directly to a pregnant woman or a mother, coupled with information on better health practices and access to public services at the AWC, the qualitative study inquired about:

- How were household decisions on expenditure and nutrition made in the homes of recipients receiving the money? Who made these decisions and why? How, if at all, are decisions about expenditure of the cash transfer different?
- How were decisions about nutrition and healthcare made within a household? What was the woman's role in this decision making process?
- What constraints do women face in accessing health care and food for themselves and their children?

### **Cash flows empower women enrolled in BCSP**

To understand if a steady source of income can empower the woman to improve her status in the household – especially when decision making about health expenditure and food consumption for herself and her children is concerned, the qualitative study asked the following questions:

- How did respondents perceive 'empowerment'? Does this differ from the programme's definition of empowerment? Does BCSP impact change in perception over time?
- What happens to the BCSP money once it is withdrawn by beneficiaries? How is it used and who decides how to use this money?
- What, if any, challenges do beneficiaries face when withdrawing the money?
- Does the cash transfer empower different types of beneficiaries differently? Do different beneficiaries make spending decisions differently? (e.g.: based on religion, age, number of children, nuclear vs joint families) Why and how is this so?
- Are there hidden costs to access the programme?

### **BCSP increases demand for and thus accountability of service delivery**

To understand the demand of government services generated by the programme and the challenges faced by health workers participating in the programme, the qualitative study asked:

- What role does the AWW (the anchor of the programme) play to deliver services to respondents?
- Are there existing structures such as the ASHA's presence in the village that have improved service delivery? If yes how, and to what extent?
- How has BCSP enabled health workers to better deliver services?
- What challenges exist that hinder effective service delivery?
- Are there hidden costs to deliver the programme (specifically at the AWC?)

### **Understanding the knowledge of and adherence to the programme's conditions**

In addition, the qualitative study also collected information specific to the programme's conditions. The study inquired if recipients were aware of the conditions and the extent to which they adopted these conditions and why they did so, or didn't do so.

Answers were triangulated within a single household where interviewers spoke with pregnant women and their mothers-in-law as well as AWWs and ASHAs.

The qualitative methodology has been discussed in greater detail in Annexe C.9 – Annexe C.12.

#### **3.2.1 Qualitative sampling strategy**

The survey drew a purposive sample of ten villages from three blocks - Wazirganj, Atri and Khizarsarai. Four villages were drawn from Wazirganj and Atri, and two from Khizarsarai. In each village, four beneficiaries, mothers-in-law of two of those beneficiaries, as well as one ASHA and AWW from the village were interviewed. Thus a total of 80 respondents were interviewed.

A sampling matrix was drawn up for each village, based on census data of the population, scheduled castes, scheduled tribes and literacy rate to ensure that the sample was equitable and representative of the district.

Using the programme's data AWCs for each block were categorized as 'well' and 'poorly' performing. These categories were assigned against three criteria, the grade given to the Anganwadi worker by the programme team that was based on her understanding and use of the mobile phone to record the BCSP conditions, the total number of beneficiaries registered in each AWC and the percentage of beneficiaries that were able to meet conditions from September 2014 to June 2015, as recorded on the programme's Management Information System (MIS). June was the last, most comprehensive month for which details were available on the MIS. These criteria were used as a proxy for overall performance of the programme and sample Anganwadi workers and ASHAs in selected villages.

From the list of poor and well performing Anganwadi centres, a second round of sampling was conducted to select beneficiaries. Based on the beneficiary payment report, a list of beneficiaries was drawn that included their age, number of children as well as days registered under the programme versus payments received. Against this list, those beneficiaries who ranked 'high' and 'low' on meeting conditions were selected. Additional attention was paid to those who had 1 child, and those who had three or more children, to capture women at different life cycles. In addition, mothers-in-law of women who lived in joint families were also interviewed.

### 3.2.2 Tools employed for qualitative data collection

Research Methodology	Method	What it does
In-Depth Interviews with BCSP beneficiaries (treatment group) and women from the control group	<p>Beneficiaries were identified with the help of the programme MIS data, especially those from SC, ST, OBC and Muslim households.</p> <p>In addition, women were also purposively sampled based on the number of children they had.</p> <p>One-to-one interviews were conducted with the respondents in their home, or a place that was identified by them, to ensure that the questions were sensitive to the respondent's needs.</p> <p>Each interview took about 1-1.5 hours.</p>	<p>This is a detailed and resource-intensive method to draw on select individual's opinions about sensitive issues, personal preference, perception and behavioural changes.</p> <p>In-depth interviews are predicated on gaining the respondents' trust and to enable them to share sensitive information that would otherwise be hard to get in a focus group discussion or a narrowly defined quantitative survey.</p> <p>The comparative advantage of in-depth interviews over a quantitative survey questionnaire is that they allow the respondent to explore themes in a less structured format, thus being able to answer some of the broader questions that emerge from the data.</p>
In-depth interviews with mothers-in-law of BCSP beneficiaries	<p>A short questionnaire was administered to the mother-in-law of the interviewed beneficiary who was enrolled in the programme.</p> <p>Only those respondents who lived in the same house as the beneficiary (daughter-in-law) were interviewed.</p> <p>Each interview took about 30 – 45 minutes.</p>	<p>These interviews aim to</p> <ol style="list-style-type: none"> <li>1. Understand household dynamics and constraints with regard to nutrition seeking behaviour,</li> <li>2. Triangulate data between beneficiaries and their mother-in-law.</li> </ol>
Key Informant Interviews (KIIs)	<p>One-to-one interviews were conducted with the AWW of the sampled village.</p>	<p>This is a quick way to provide specific insights about the intervention. This</p>

<b>with Anganwadi workers</b>	The list of respondents was selected from the list of AWC enrolled in the programme. As the programme ranked its workers into categories of A, B and C – depending on their capacity – they were selected according to these lists. All KIIs ranged from 30 – 45 minutes.	methodology can be key to understanding challenges in the field and involving stakeholders' suggestions towards the project.  Moreover, speaking with informants could potentially lead to other data sources and informants.
<b>Key Informant Interviews (KIIs) with ASHAs</b>	One-to-one interviews with ASHAs were conducted. The ASHAs were selected from villages where the AWW had been interviewed. These ASHAs were identified by the AWW herself.  All KIIs ranged from 30 – 45 minutes.	These interviews aim to 1. Understand the dynamics between the AWW and the ASHA who has to work closely with AWW, especially during the VHSND 2. Triangulate data between the ASHA and AWW

### 3.2.3 Data analysis

**Data familiarisation:** This happened as a result of designing and testing the questionnaire, observing fieldwork and reading transcripts.

**Thematic framework identification:** Coding of the interview transcripts was undertaken to reflect the aims of the study and what was emerging from the data

**Indexing:** Allowed for a quicker, more systematic retrieval of coded data for analysis

**Charting:** Data was rearranged by index – for example, a table with themes in columns, cases in rows, and summaries in cells

This approach has helped to balance and manage the following:

- Address project objectives
- Produce feasible recommendations
- Where required, allow findings that do not fit in the framework to emerge and be documented
- Ensure findings are valid (representing the 'truth' of the situation) and reliable (replicable, if other researchers followed a similar research protocol)

Two types of triangulation have been used: a) triangulation of data sources – data from several sources have been compared (for example, interviews of different stakeholders including beneficiaries and partners of BCSP), and b) triangulation of researchers – three researchers have analysed the data. The codebook was tested by three researchers independently to verify the codes and validate the replicability of the codebook. The final coded data has been verified by another researcher who has not coded the data to ensure corroboration.

## 3.3 Mixed methods

In mixed methods studies, the research questions underpin the rationale for the chosen research design and the approach to mixing quantitative and qualitative methods. For research questions as complex as the impact of a conditional cash transfer programme in the Indian context and tracing the pathways to impact, comprehensive evidence needs to be generated that is best achieved by a collaboration between quantitative and qualitative methods.

In this study, different methods were used to measure the same phenomenon to enhance interpretation and understanding. Since the first round of qualitative research was done along with the quantitative midline survey, the design of qualitative tools was done in consultation with the quantitative methods team to identify certain questions that would require an in-depth qualitative approach. Qualitative and quantitative surveys collected information on the same evaluation questions and methods were mixed to triangulate findings and corroborate or refute findings and explain trends where possible. Quantitative and qualitative data are presented together. The quantitative and qualitative research teams have worked closely to analyse and present findings together in the chapters that follow.

### **3.4 Limitations, biases and mitigation strategies**

Possible limitations and biases arising at different stages of collecting and analysing data have been addressed in the following manner:

#### **Translation of tools**

Both the qualitative and quantitative surveys were designed in English and translated into Hindi for the survey. Translating the questionnaire into another language opens up the possibility of losing the meaning of the questions. In order to ensure that there was accuracy of translation, and that the meaning of the questions remained intact, tools were field-tested thoroughly by OPM staff.

#### **Recall bias**

Information collected from respondents was based on recall over various time periods. Any recall bias was mitigated through pre-testing of all survey instruments, the use of standardised methodologies, and training enumerators to facilitate the recall process for the respondents through different strategies.

#### **Surveyor bias**

Most of the surveyors hired for the survey had prior experience of working on similar surveys, thus had the required skills of asking questions in a neutral way. Additionally, all the surveyors were trained to be unprejudiced and sensitive, in particular, while asking for information on issues of health as well as income and expenditure details of the household. Mock-sessions also facilitated appropriate surveyor behaviour.

#### **Measurement bias**

During anthropometric and haemoglobin level measurement of children and women, measurement bias was addressed in several ways including proper training of personnel using standardisation techniques, use of appropriate high-quality equipment and CAPI-validated checks on data entry of multiple measurements. This has been discussed in greater detail in Annexe C.4

#### **Gender bias**

For household surveys, female surveyors administered the questionnaire to our female respondents in order to control for gender bias that might arise if a male surveyor were to ask sensitive questions to a female respondent. The anthropometric measurements were taken by a mixed team.

#### **Geographical bias**

To address this type of bias, and to obtain accurate estimates of key indicators, the units of the survey data (household, woman and child) were analysed using appropriate sampling weights. Annexe C.8 on the detailed quantitative evaluation methodology has covered the calculation of these weights.

### Recording qualitative data

The presence of a recorder during discussions and interviews alters the answers given by respondents. In addition, the presence of a note taker also affects the respondent's answers, especially in individual interviews. To address this, recorders were used after explaining their purpose to the respondent; the surveyors were trained to ensure that the recorder and the note taker were unobtrusive. In cases where respondents were uncomfortable, the recorder was not used.

### Transcribing and translating qualitative data

Two levels of data interpretation took place before the final text was analysed. Each interview was recorded and transcripts backed up on a daily basis. Additionally, extensive notes were taken for each interview. This helped corroborate answers where audio quality was not great. Physical copies of the notes will reside in the OPM office for 3 years, after which they will be destroyed. All audio interviews were then translated into English. Translations were reviewed several times and corroborated with the physical notes to ensure accuracy.

### Triangulating data

Three qualitative researchers analysed the data to minimise the bias of a single researcher when looking at the data. However, the initial observations formed during testing and fieldwork were unavoidable. To address this and correct researcher bias, data triangulation and detailed documentation of the qualitative research process were carried out.

## 3.5 Ethical considerations

Research was conducted to the highest ethical standard, in line with the principles outlined in DFID's Ethics Principles for Research and Evaluation published in July 2011. The study design, fieldwork modalities (including processes around ensuring minimising participant burden, anonymity of respondents, opt-outs and appropriate behaviours of enumerators), and draft tools were approved by the formal Institutional Review Board of the Centre for Media Studies, New Delhi.

Key ethical considerations relating to primary data collection are listed below, along with the approach proposed to mitigate ethical risks:

- **Design and field-testing of questionnaires:** The questions were designed in English and translated into Hindi for the survey. As this could result in the loss of nuances or a change of meaning, questionnaires were field-tested to ensure accuracy in translation. Questions and probes in the qualitative and quantitative questionnaire design were field-tested to ensure that they did not cause the respondents discomfort or distress. Surveyors were trained to deliver these questionnaires with consideration towards the respondents' disposition and privacy. Questions were also field-tested to ensure that respondents understood them properly and any cultural or personal sensitivity was not violated. In case of any such issues, these were discussed and changes incorporated accordingly, and appropriate suggestions were made to the enumerators to take these aspects into account.
- **Consent and voluntary participation:** Participation in both the quantitative and qualitative studies was voluntary. Prior to asking informants for verbal consent, OPM had taken additional

care to explain the background and objective of the interview. Respondents were informed about the broad nature of questions and also told that participation was voluntary.

- **Incentives:** Respondents were not reimbursed or paid to participate in the study. In order to address participant burden, interviews and discussions, being time-intensive, were planned as much as possible according to the availability of the respondents so as to not hinder their work.
- **Confidentiality and privacy:** Surveyors were trained to ensure that family members such as parents or in-laws were not present during the interview, so as to not compromise the respondent's privacy and maintain the objectivity of the responses. Female enumerators administered all interviews to female respondents at the household level. During data analysis, no personal identifiers were used in any form of reporting or dissemination. Personal identifications were linked with a unique identifier and will be stored securely. Soft copy of the dataset will be shared only with the donor for the study while maintaining the anonymity of data and following the data management protocols.
- **Independence:** Since the implementation and evaluation of the programme was under the aegis of OPM (as a piece of operational research), there are considerations of bias on this front. The evaluation and implementation team from OPM were completely different and persons who worked on the original design of the programme were not involved with the evaluation. The implementation team was, however, contacted to understand the programme implementation better and for certain logistics questions. OPM's commitment to maintaining the integrity of its evaluation was reiterated to all members of the evaluation team and team members continuously checked the ethical implications of their work. While every care was taken to ensure that the implementation and evaluation arms of this programme were separate, there was still some interaction between the teams. Any bias from this must be accounted for while interpreting the evaluation. During data analysis, differences of opinion that came up (especially between quantitative and qualitative evidence), have been acknowledged and reported throughout the findings' section of the report. Moreover, primary information sources, that is the survey respondents and their contributions, were independent of other parties with an interest in the evaluation.

The evaluation team were able to work freely and without interference.

### 3.6 Equity and inclusion

The BCSP aims to ensure that poor, young, pregnant women as well as neglected populations and underserved areas benefit. One of the key evaluation questions is, therefore, the extent to which the project interventions and impact address these diverse population groups.

- **Subgroup analysis:** The quantitative analysis has included a disaggregated (or subgroup) analysis based on exclusion status (tribal status and caste), poverty status (wealth quintile) and gender. This enables an understanding of how vulnerable groups access and perceive family planning programmes. Additionally, subgroup analysis was conducted across women's age groups as well as their access to Take Home Rations (THR) and awareness levels. However, it should be noted that since the sample size is only representative at the programme level, the estimates presented for such subgroup or sub-population analysis will only be an indication of variation across these groups and not representative of the population for either treatment or control groups.
- **Wealth index calculations:** The wealth index was constructed by combining information on 33 household assets and housing characteristics such as ownership of consumer items, type of

dwelling, source of water, and availability of electricity, into a single wealth index.<sup>27</sup> The household population was divided into five equal groups of 20% each (quintiles) at the national level from one (lowest, poorest) to five (highest, wealthiest). This method is also used by other standard surveys like the National Family Health Survey (NFHS). For the sake of this evaluation, this wealth index was used rather than a distinction based on the possession of a BPL card (since this would be influenced by a number of factors like the extent of government activity in the area, errors of inclusion and exclusion, etc.).<sup>28</sup>

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<sup>27</sup>The wealth index was calculated by using a principal component analysis (PCA) method. From a set of correlated variables, the PCA extracts a set of uncorrelated 'principal components'. Each principal component is a weighted linear combination of the original variables. A similar methodology is also used for the analysis of the NFHS data.

<sup>28</sup> However, further analysis showed that the proportion of BPL and Antodaya families in the richest quintile was 51 per cent, second richest quintile was 64 per cent, middle quintile was 68 per cent, second poorest quintile was 75 per cent, and poorest quintile was 85 per cent. While the increasing proportion of BPL and Antodaya cards is expected from the richest to the poorest quintiles, this also shows that even the richest quintile consists of households that are poor in absolute terms notwithstanding mistargeting.

## 4 Implementation status

### 4.1 Introduction

This chapter outlines the findings relating to the functioning of the key systems underpinning the cash transfer, namely programme awareness, continual enrolment, and safe and timely payments.

The structure of the chapter is as follows. Section 4.2 studies the awareness levels of the programme among eligible beneficiaries. In Section 4.3, enrolment rates for the programme are presented. In order to see whether any socio-economic factors influence an eligible beneficiary's likelihood of enrolling under the programme, enrolment rates are disaggregated by religion, caste, wealth quintile and migration status. Additionally, to test whether a woman's engagement with the ICDS had any standing on her likelihood of enrolling, enrolment rates were also disaggregated by those who had received THR, and those who had not. Then, Sections 4.4 to 4.6 examine how well the payment system was functioning by presenting data on beneficiaries' experiences of opening bank accounts, and receiving and withdrawing the BCSP cash transfer.

### 4.2 Programme awareness

Awareness levels about the BCSP were relatively high in the two treatment blocks, averaging 77 per cent of all surveyed (Table 4.1). From the qualitative data it was evident that most programme beneficiaries, even if they did not remember it by name, knew of the BCSP as the programme under which they received a monthly payment of Rs. 250. According to the beneficiaries interviewed in the qualitative survey, their primary source of information about the programme was the Anganwadi Worker (AWW) and Accredited Social Health Activist (ASHA) in their village. The AWWs explained to them that the monthly payment was for the health of the pregnant woman and her child, and that they should buy healthy food (fruits, vegetables, milk etc.) with the money they received.

Amongst those who were aware of the BCSP, their level of awareness about the programme requiring compliance with conditions was also relatively high (74 per cent).

**Table 4.1 At midline: Awareness about BCSP**

At midline : Awareness about BCSP among respondents who have at least one child under 1 year of age			
Outcome/ Indicator	Hard conditions	Soft conditions	Overall
Women who have heard of the BCSP	79.9%	76.3%	77.3%
	[0.023]	[0.030]	[0.023]
	859	830	1689
Women who are aware that the BCSP involves meeting conditions	69.9%	76.0%	74.4%
	[0.032]	[0.023]	[0.019]
	684	636	1320
Women who have heard about the CMGs for BCSP	7.4%**	12.0%	10.8%
	[0.015]	[0.017]	[0.013]
	684	636	1320

**Source:** BCSP Midline Survey (Aug - Nov 2015).  
**Notes:** (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* =95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design.

To see whether awareness differed across social groups, awareness levels were disaggregated by caste category (Table 4.2). The proportion of women who had heard of the BCSP was significantly lower (at the 99 per cent level) among those belong to the SC category, compared to those who were not SC.

**Table 4.2 At midline: BCSP awareness by caste**

**At midline: BCSP awareness by caste (For all respondents who had at least one child under 1 year of age)**

Outcome/ Indicator	Hard conditions			Soft conditions		
	SC <sup>(3)</sup>	Non SC	Overall	SC <sup>(3)</sup>	Non SC	Overall
Women who were aware of the BCSP, or a of a programme that directly transfer Rs 250 in to beneficiaries' bank accounts	67.7%***	86.4%	75.0%	60.4%***	81.7%	63.9%
	[0.045]	[0.031]	[0.035]	[0.047]	[0.053]	[0.044]
	230	157	387	241	51	292

**Source:** BCSP Midline Survey (Aug - Nov 2015).

**Notes:** (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) Asterisks appear if the value in this column is significantly different from the value in the column to its immediate right

Understanding of the details of the conditions was limited. Beneficiaries, on average, were able to recall less than one condition in either block (Annexe E.1.3). VHSND attendance, weight gain monitoring and child growth monitoring were the conditions most often remembered by both beneficiaries and AWWs in both blocks. More details about beneficiaries' awareness of the conditions is discussed in Section 6.4. Awareness about Community Monitoring Groups (CMGs) was very low, suggesting limited effectiveness of that channel of oversight and grievance redressal.

## 4.3 Enrolment

### 4.3.1 Levels

Of the women sampled in the treatment blocks who had at least one child less than a year old, 54 per cent were enrolled under the BCSP at the time of the survey (Table 4.3 below). Of the children in the sample who were eligible to be a part of the BCSP (i.e., all children of women who had at least one child under the age of one year), 54 per cent were enrolled.

**Table 4.3 At midline: BCSP enrolment levels**

**At midline: BCSP enrolment among respondents with at least one child under one year of age**

Outcome/ Indicator	Hard conditions	Soft conditions	Overall
Per cent of eligible women enrolled under BCSP	56.5%	53.6%	54.4%
	[0.030]	[0.030]	[0.024]
	859	830	1689
Per cent of eligible children enrolled under BCSP	56.2%	53.5%	54.2%
	[0.030]	[0.030]	[0.024]
	850	818	1668

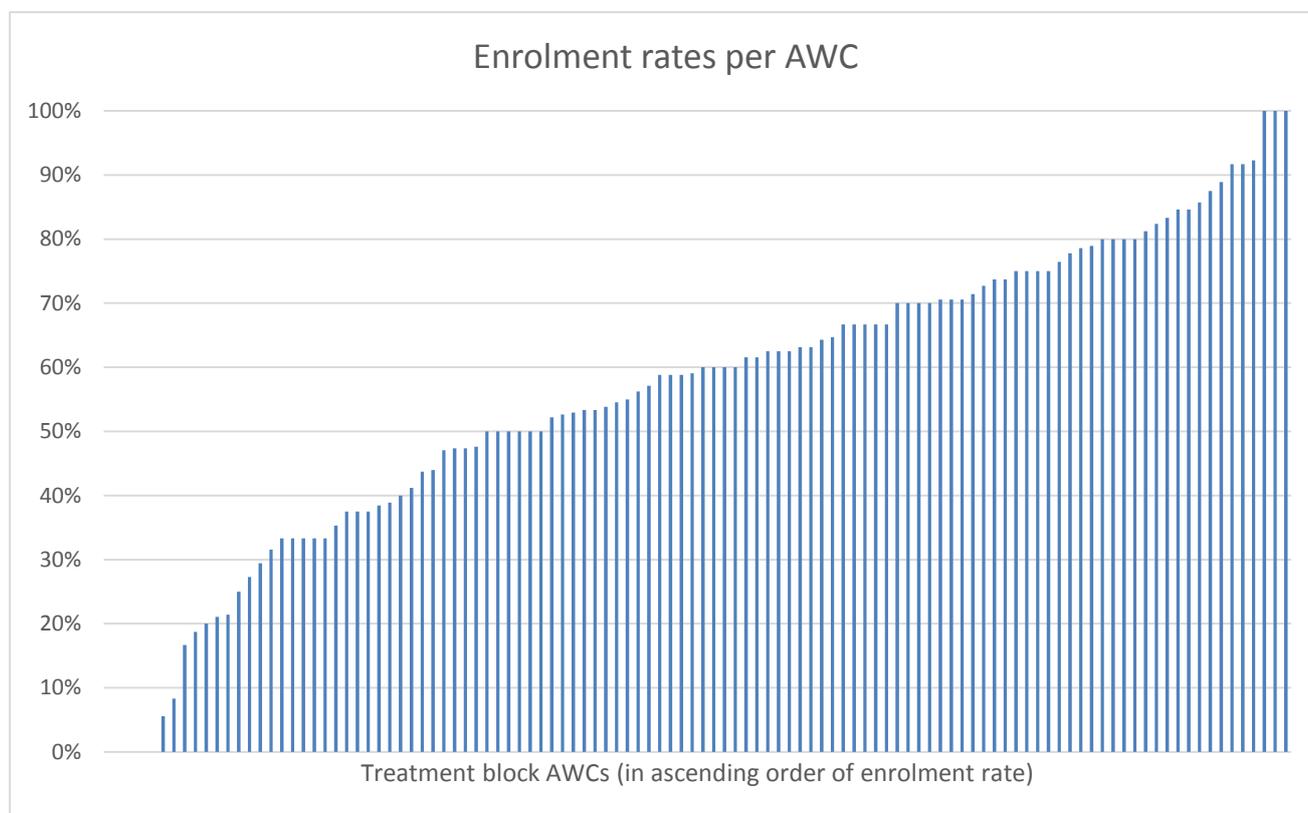
**Source:** BCSP Midline Survey (Aug - Nov 2015).

**Notes:** (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design.

Part of the explanation for the relatively low levels of enrolment relate to the fact that children who were aged 6 - 11 months at the time of the midline survey were born to mothers who were already more than three months pregnant at the time of the programme rolling out (in 2014). Under the BCSP, a woman can only register upon the completion of her first trimester of pregnancy and before she gives birth. By the time that some women who had been eligible had opened bank accounts, or attempted to enrol after seeing others receive cash, many had since given birth and had become ineligible to enrol.

However, this does not fully explain the enrolment gap. Furthermore, Figure 4.1 below, which shows a plot of enrolment rates for all sampled AWCs, shows that enrolment is partial in almost all AWCs; the average is not skewed by a tail of AWCs with no enrolment. In the sections below, various possibilities behind the uniformly low coverage rates are explored.

**Figure 4.1 Enrolment rates per AWC**



Source: BCSP MIS

### 4.3.2 Enrolment by socio-economic status, migration and receipt of THR

Disaggregated analysis provides more understanding of the drivers of low enrolment. Table 4.4 below shows that rates of enrolment for SC and, particularly, the poorest wealth quintile are significantly lower than those for other categories.

This could partially be explained by the differential rates of awareness about the BCSP of SCs and the poorest households outlined above; but further analysis shows that even amongst those who were aware of the BCSP, households belonging to the SCs and the poorest quintile were less likely to be enrolled than other households.

**Table 4.4 At midline: BCSP enrolment by socio-economic status**

At midline: BCSP enrolment by religion, caste category, wealth quintiles (For all respondents who have at least one child below 1 year of age)			
Outcome/ Indicator	Enrolled under BCSP	Standard errors	N
<b>Religion<sup>(3)</sup></b>			
<i>Hindu</i>	54.6%	[0.024]	1594
<i>Muslim</i>	57.2%	[0.073]	100
<b>Caste<sup>(4)</sup></b>			
<i>SC</i>	47.5%**	[0.035]	805
<i>OBC</i>	64.6%	[0.022]	710
<i>General</i>	58.2%	[0.044]	175
<b>Wealth quintiles<sup>(5)</sup></b>			
<i>Poorest</i>	31.0%***	[0.036]	334
<i>Second</i>	52.3%**	[0.039]	346
<i>Third</i>	57.4%	[0.044]	327
<i>Fourth</i>	68.0%	[0.031]	345
<i>Richest</i>	63.1%	[0.032]	342

**Source:** BCSP Midline Survey (Aug - Nov 2015).

**Notes:** (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) A t-test was performed to compare the enrolment rate of each religion with that of Hindus (4) A t-test was performed to compare the enrolment rate of each caste category with that of the General Category. (5) A t-test was performed to compare the enrolment rate of each wealth quintile with that of the richest quintile.

Certain discriminatory practices also contributed to differential enrolment rates; an eligible beneficiary was significantly more likely to be enrolled if she was from the same social group as the AWW, compared to if she was from a different group (63 per cent versus 50 per cent in the hard conditions block; Annexe E.2.3) However, this still does not fully explain differences in enrolment; even in AWCs where the AWW was from the same social status as eligible beneficiaries, those AWCs with high numbers of SCs or households from the poorest quintile still had systematically lower rates of enrolment.

Migration could be one driver of this. In Bihar, it is common to see both men and women migrate from their village for parts of the year to find employment. This includes pregnant women, who are therefore unable to register for BCSP.

Table 4.5 shows that enrolment rates for women who migrate out of their village for periods of the year are very low. The poorest households are most likely to migrate; especially for seasonal work in brick kilns outside of the area. In the soft conditions block, 24.5 per cent of women from the poorest two quintiles reported migrating out for part of the year, compared to just 5 per cent of women from the richest two quintiles (Annexe E.3.1). Seventy-four per cent of all households that migrated out of their village in the year between the baseline and midline belonged to the SCs, while 84 per cent belonged to the poorest quintile. (Annexe E.3.2).

**Table 4.5 At midline: BCSP enrolment disaggregated by migration status****At midline: BCSP enrolment by migration status (For all respondents with at least one child below 1 year of age)**

Outcome/ Indicator	Migrate out of their village	Do not migrate out of their village
Enrolled under the BCSP	24.7%	59.2%***
	[0.051]	[0.023]
	192	1503

**Source:** BCSP Midline Survey (Aug - Nov 2015).

Notes: (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design.

At the time of the midline survey, more households had enrolled in BCSP than had received Take Home Rations (THR) under Integrated Child Development Scheme (ICDS) (54 per cent in Table 4.3 above versus 41 per cent in Annexe E.3.3). The receipt of THR is also a proxy for the engagement of a household with ICDS as a whole. Table 4.6 below also shows that while just over half of households from the richest two quintiles who did not receive THR were still able to enrol for the BCSP, only a quarter of the poorest households were able to do so. Therefore, households who were not currently engaged with the ICDS system were less likely to be able to enter the system to enrol for the BCSP. This phenomenon was more pronounced for the poorest 40 per cent, compared to the richest 40 per cent.

**Table 4.6 At midline: BCSP enrolment by wealth status and receipt of THR****At midline: BCSP enrolment by wealth status and receipt of THR**

Outcome/ Indicator	Richest 40 %			Poorest 40%		
	THR	No THR	Overall	THR	No THR	Overall
Women who were enrolled under BCSP	82.5%** *	52.1%	65.1%	63.6%** *	25.9%	41.9%
	[0.026]	[0.037]	[0.024]	[0.041]	[0.034]	[0.031]
	288	394	682	296	383	679

**Source:** BCSP Midline Survey (Aug - Nov 2015).

Notes: (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) Asterisks appear if the value in this column is significantly different from the value in the column to its immediate right.

## 4.4 Accessing the AWC and banks

The design of the BCSP requires a woman to access the AWC and attend the VHSND regularly, as well as access her bank account herself to withdraw the money received under the programme. Therefore, to access the programme and the money, a woman would need to participate in activities in the AWC and travel outside her village. However, it was not customary for newly-married women to step out of their house on their own, even if this is within the confines of the village in Bihar.

Interviews in the qualitative midline found that some mothers-in-law in the sample would feel offended if their daughters-in-law stepped out of the house on their own. Not only would the young woman disrespect the older members of the family, community members would also view the mother-in-law unfavourably if her daughter-in-law went out alone.

The study suggested that the cost of accessing the programme was higher for some women as compared to others. In addition, some women would require the family's buy-in if she wanted to participate. For example, according to a health worker, the 'newness' of a married woman wore off five to eight years from marriage, after which she could go out of the house on her own.

*Interviewer: What is the difference? When does a daughter-in-law become [old] and when is she new [to the family]? After how many years?*

*Respondent: In many families they are considered new till 5 years, 6 years or 8 years. Then she becomes old and starts coming alone.*

(AWW, 22 years, soft conditions block)

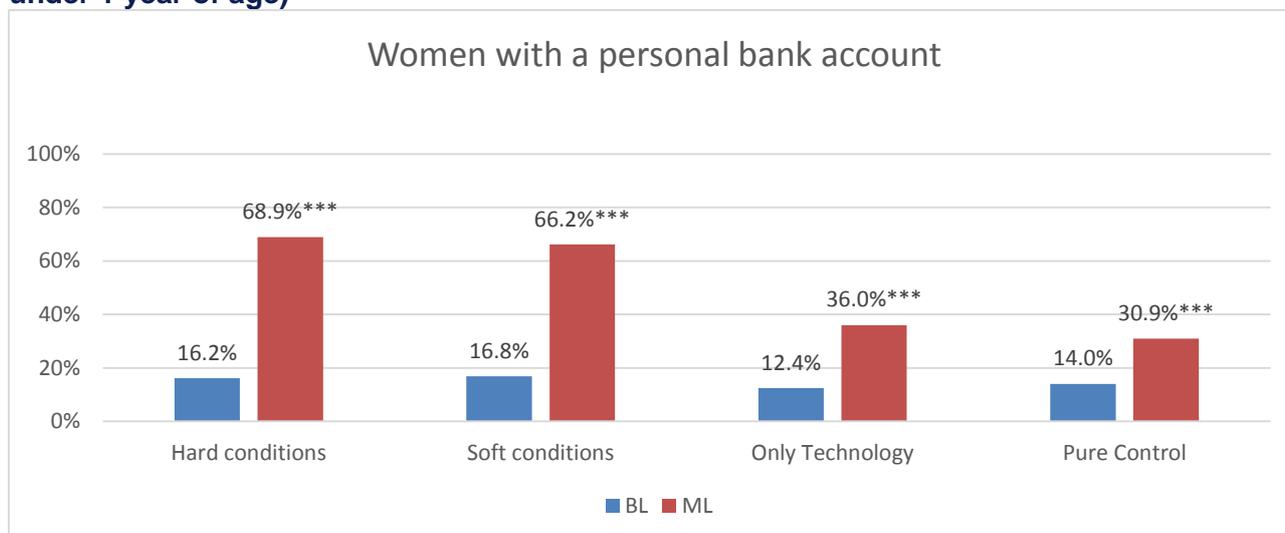
Therefore, access to the programme would be harder for younger women, and the programme may benefit from counselling older family members of the benefits of the programme to ease access for the beneficiary and increase enrolment.

A few groups were more mobile than others, which may also explain why the programme would have to counsel and communicate more with specific groups than others in order to ensure universal access. For example, the quantitative data showed that women living in SC households were more likely to go to the local market or to a health facility alone than women living in non-SC households (Annexes E.3.6 and E.3.7). In the qualitative interviews, women in nuclear families, especially when husbands did not work and live in the same village, had greater physical mobility as compared to women in joint families as she managed the household and cared for their children on her own. For these groups, participating in the programme may be easier than others.

## 4.5 Beneficiaries' experience of opening bank accounts

BCSP uses Direct Bank Transfers (DBT) to enable swift, regular transfers which minimise leakage. One of the core eligibility criteria for registering under the BCSP, was for the woman to have a bank account in her name. Comparing across the baseline and midline surveys, there is a significant increase in the per cent of women having their own bank accounts across all blocks. This increase was the highest in the blocks with conditions. The graph below (Figure 4.2) summarises these findings:

**Figure 4.2 Women with a personal bank account (for respondents with at least one child under 1 year of age)**



Source: BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015). For more information, please refer to Annexe E.4.2.

Difference-in-differences impact estimates clearly attribute part of the increase in the treatment blocks to the BCSP – an additional 25 percentage point of women had opened bank accounts over time in the soft conditions block (which requires beneficiaries to have a bank account in order to enrol), compared to the only technology block (Table 4.7).

**Table 4.7 DID: Women with personal bank accounts**

DID: Women with personal bank accounts (for respondents with at least one child under 1 year of age)			
Outcome/ Indicator	Hard conditions vs. Soft conditions	Soft conditions vs. Only technology	Only technology vs. Pure Control
	Dif 1 - Dif 2	Dif 2 - Dif 3	Dif 3 - Dif 4
Women with personal bank accounts	0.0308	0.250***	0.0527
	(0.0416)	(0.0416)	(0.0409)

**Source:** BCSP Midline Survey (Aug-Nov 2015).  
**Notes:** (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) The figures for the above indicators should be multiplied by 100 to be interpreted as percentage points. For instance, 0.25 should be interpreted as 25 percentage points.

Not having a bank account was one of the main reasons why beneficiaries could not enrol under the programme, according to quantitative interviews with the AWWs. Seventy-nine per cent of the 37 AWWs who said they had faced problems while registering beneficiaries, said it was because the woman did not have a bank account in her name – one of the main eligibility criteria for enrolling under the programme (Annexe E.5.1). In order to dig deeper, the quantitative survey also asked those beneficiaries who had opened an account just for the BCSP about their experience opening a bank account. The results are presented in Table 4.8 below.

**Table 4.8 At midline: Opening of bank accounts**

At midline: Bank account opening by the BCSP beneficiaries with at least one child under 1 year of age				
Outcome/ Indicator	Hard conditions	Soft conditions	Overall	
Beneficiaries of the BCSP who opened a bank account just for the purpose of registering with the BCSP	66.9%**	58.8%	61.0%	
	[0.024]	[0.028]	[0.022]	
	484	442	926	
Beneficiaries of the BCSP who faced challenges when opening the bank account specifically for the programme	24.5%	26.2%	25.7%	
	[0.027]	[0.029]	[0.022]	
	326	259	585	
Main challenges faced by beneficiaries in opening bank account, if any:				
	<i>Bank branch was too far/ expensive to reach</i>	33.8%	37.8%	36.7%
		[0.050]	[0.065]	[0.049]
		80	70	150
	<i>Did not have any govt. ID / address proof</i>	33.7%	30.3%	31.2%
		[0.057]	[0.062]	[0.048]
		80	70	150
	<i>Did not have two govt. ID / address proofs</i>	20.4%	15.3%	16.7%
		[0.048]	[0.047]	[0.037]

**At midline: Bank account opening by the BCSP beneficiaries with at least one child under 1 year of age**

Outcome/ Indicator	Hard conditions	Soft conditions	Overall
	80	70	150
Average no. of times beneficiaries had to visit bank to open account, if account was opened for registering with BCSP	2.91 [0.132]	2.91 [0.117]	2.91 [0.092]
	318	253	571
Beneficiaries who reported that they paid money (besides minimum balance) while opening a bank account to join BCSP	48.4% [0.041]	47.9% [0.047]	48.0% [0.035]
	326	259	585

**Source:** BCSP Midline Survey (Aug - Nov 2015).

**Notes:** (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design.

A majority of the beneficiaries (61 per cent) reported that they opened a bank account just for the purpose of registering under the BCSP. A little over a quarter of such beneficiaries said they faced challenges in opening the bank account. The most common challenges reported were the bank branch being too far or expensive to reach (37 per cent of the beneficiaries who faced challenges in opening the account); not possessing even one of the requisite documents to open the account (31 per cent); and, not possessing the two documents required (17 per cent).

Those beneficiaries who opened an account to join the BCSP, on average, visited the bank thrice before they could open their account. Forty-eight per cent said they were required to pay money (besides the minimum balance) whilst opening the account.

Several challenges were reported in the qualitative sample when opening a BCSP account. Some women, especially in remote villages in the hard conditions block, reported difficulties in accessing the bank to open an account. The excerpt from the interview below suggests that difficulty in accessing banks also leads to a greater dependence on middle-men (and women) who could demand money to help them. This corruption was visible at several levels with bank persons, village chiefs and AWWs demanding money in different instances.

*Interviewer: Did you know that you have to open the account?*

*Respondent: I knew everything. I know that many people are getting money. It's not the fault of ASHA didi. We show some laziness in giving documents. The bank is far and so it is a problem for us to go there.*

*Interviewer: So you haven't got your account open so far?*

*Respondent: The bank is far and so we are helpless.*

*Interviewer: Do you have information about what you should do to get an account opened?*

*Respondent: We have to give money also. We have to give when they demand.*

*Interviewer: How much do they demand?*

*Respondent: [Rs] 100-200.*

*Interviewer: ASHA didi demands or Anganwadi didi demands?*

*Respondent: Anganwadi didi doesn't demand. The person who gives the form and the mukhiya has to sign on the form, so he asks for some money. The bank is far and so they demand for conveyance.*

*Interviewer: Who has to sign on the form?*

*Respondent: Mukhiya takes money to sign on the paper. Mukhiyaji demands and they also demand money at the bank. We are needy people and so we have to pay.*

(Non-BCSP respondent, 25 years, hard conditions block)

## 4.6 Cash transfer credit into bank account and payment withdrawal

A major challenge in the payment system of a CCT programme is to successfully distribute the correct amount of benefits to the right people at the right time and frequency, whilst minimising costs to both the programme and the beneficiary<sup>29</sup>. To this end, the quantitative survey asked the BCSP beneficiaries about the credit and withdrawal of the cash transfer from their accounts.

### 4.6.1 Credit

Almost 75 per cent of the beneficiaries in the quantitative survey said that their account had been credited with the BCSP cash transfer at least once since joining (Table 4.9 below). Of these, 70 per cent said they are informed when the cash transfer is credited– mainly by the AWW. Informing beneficiaries when money is credited to their account is important. Bank branches are often located at a distance from villages, and account holders can spend hours travelling to withdraw money.

**Table 4.9 At midline: Credit of the BCSP cash transfer**

At midline: BCSP cash transfer credit into bank accounts (for all respondents who are BCSP beneficiaries and have at least one child under 1 year of age)				
Outcome/ Indicator	Hard conditions vs. Soft conditions		Overall	
	Hard conditions	Soft conditions		
Beneficiaries whose accounts have been credited with BCSP cash transfer at least once since joining the programme	71.0%	76.1%	74.7%	
	[2.480]	[2.469]	[1.936]	
	480	437	917	
Beneficiaries who are informed when the BCSP cash is credited to their bank account	66.8%	71.6%	70.4%	
	[3.125]	[3.887]	[3.031]	
	342	333	675	
Main sources through which beneficiaries know when the BCSP cash is credited to their account	AWW	76.1%	81.7%	80.4%
		[3.384]	[3.283]	[2.678]
		230	236	466
	SMS from the bank	11.6%	8.2%	9.0%
		[2.706]	[2.160]	[1.792]
		230	236	466
	GPM	6.9%	4.3%	5.0%
		[1.957]	[1.704]	[1.384]
		230	236	466
Average no. of times the beneficiaries' bank account has been credited with BCSP cash in the last 6 months, if the beneficiary enrolled more than 6 months ago	3.22***	3.88	3.71	
	[0.166]	[0.144]	[0.124]	
	265	271	536	
Average amount of cash credited to beneficiaries' bank account in the last 6 months, if the beneficiary enrolled more than 6 months ago	916.93**	1059.23	1023.71	
	[47.470]	[30.819]	[27.756]	
	269	265	534	

**Source:** BCSP Midline Survey (Aug - Nov 2015).  
**Notes:** (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design.

<sup>29</sup>Grosh, M., C. delNinno, E. Tesliuc, and A. Ouerghi (2007)

## 4.6.2 Withdrawal

The programme is designed to deliver payments monthly, so that recipients can withdraw their money monthly and have more control over smaller amounts of money. Table 4.10 below looks at cash withdrawal statistics. Interviews from the qualitative sample provide greater nuance on withdrawal behaviour within the qualitative sample.

**Table 4.10 At midline: Withdrawal of BCSP cash transfer**

At midline: BCSP cash transfer withdrawal from bank accounts (for all respondents who are BCSP beneficiaries and have at least one child under 1 year of age)			
Outcome/ Indicator	Hard conditions vs. Soft conditions		Overall
	Hard conditions	Soft conditions	
Beneficiaries who have received and withdrawn BCSP cash transfer at least once	85.9%	86.5%	86.3%
	[2.167]	[1.809]	[1.460]
	342	333	675
Average no. of times BCSP cash been withdrawn from the beneficiaries' bank account in the last 6 months, if the beneficiary has been enrolled for 6 months or more	1.83**	2.12	2.04
	[0.078]	[0.086]	[0.067]
	266	247	513
Average amount of BCSP cash withdrawn by beneficiary in the last 6, if beneficiary has been enrolled for 6 months or more	825.66**	924.45	898.16
	[35.312]	[32.054]	[26.469]
	268	244	512
Average proportion of credited BCSP cash withdrawn by beneficiary in the last 6, if beneficiary has been enrolled for 6 months or more	86.1%	84.1%	84.6%
	[0.016]	[0.017]	[0.013]
	231	231	462

**Source:** BCSP Midline Survey (Aug - Nov 2015).  
**Notes:** (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* =95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design.

Out of those beneficiaries who received the cash transfer, 86 per cent reported that they had withdrawn the transfer at least once. In the six months before the survey, an average of Rs 898.16 had been withdrawn (among those beneficiaries who had been enrolled with the BCSP for at least six months at the time of the survey). This was, on an average, 85 per cent of the BCSP cash beneficiaries said they had been credited with in the same time frame. There was no highly significant difference in the amount received by different social groups (Annexes E.4.7 and E.4.8).

The quantitative findings also showed that the cash had been withdrawn an average of 2.04 times in the six months before the survey (Table 4.10 above). The qualitative survey results also found that withdrawals were infrequent, and sheds light on the reasons behind this. Despite a strong push for monthly withdrawals, the response from the qualitative sample indicated that a substantial number of respondents refrained from doing so. One reason for this revolved around access and withdrawal costs.

In places where access to banks was difficult and required significant travel, the costs were too high to incur for Rs. 250 alone. This was particularly true for the villages in Atri, which is a more remote district with higher access issues. Some women reported spending close to Rs 100 on conveyance, which prevented them from withdrawing the money every month. According to the quantitative sample, on average, travel cost around 10 per cent of the monthly transfer sum.

*Interviewer: How far is the bank?*  
*Respondent: It takes around one hour.*  
*Interviewer: by foot?*  
*Respondent: Yes.*  
*Interviewer: What do you prefer to do? Like do you prefer to withdraw the money immediately from the account or you prefer to accumulate it in your account for few months?*  
*Respondent: I think that I would accumulate it for 2-3 months then I will withdraw it. If I would withdraw it every month then it would get spent too. I will have to spend 100 rupees immediately.*  
*Interviewer: Where you would spend Rs100?*  
*Respondent: On conveyance.*  
 (BCSP beneficiary, 16 years, hard conditions block)

*Interviewer: Do you prefer to withdraw the money immediately or do you prefer to accumulate the money for few months?*  
*Respondent: I withdraw this money after two months. Like I withdraw 500 rupees at a time.*  
*Interviewer: Why?*  
*Respondent: Because my child is very small and it is not possible to go there every month.*  
 (BCSP beneficiary, 22 years, hard conditions block)

Even when there were no obvious access challenges, some women perceived Rs 250 as too small an amount to going to the bank for.

*Interviewer: Why do you let it accumulate for three months?*  
*Respondent: There is no particular reason. I don't want to go for 250 Rs only.*  
 (BCSP beneficiary, 25 years, soft conditions block)

Another deterrence for withdrawal was lack of decision making power with the beneficiary. Decisions to withdraw were often made by various household members, and not always entirely up to the 'owner' of the cash. While Rs. 250 is not a large amount, as the money accrues, the possibility of family members weighing in on decision making increases. Spending preferences and their impact on withdrawal patterns are discussed further in Chapter 5.

The beneficiaries were also asked if they faced any difficulties while withdrawing the cash from their bank accounts (Table 4.11).

**Table 4.11 At midline: Challenges faced in the BCSP cash withdrawal from bank accounts**

At midline: Challenges faced in the BCSP cash transfer withdrawal from bank accounts (for all respondents who are BCSP beneficiaries and have at least one child under 1 year of age)			
Outcome/ Indicator	Hard conditions vs. Soft conditions		Overall
	Hard conditions	Soft conditions	
Beneficiaries who reported facing challenges while withdrawing the BCSP cash	16.8%*	9.6%	11.4%
	[3.098]	[2.238]	[1.878]
	292	287	579
Main challenges beneficiaries faced while withdrawing cash <i>Bank branch is too far/ expensive to reach</i>	41.9%	27.6%	32.9%
	[0.077]	[0.068]	[0.051]
	49	30	79

At midline: Challenges faced in the BCSP cash transfer withdrawal from bank accounts (for all respondents who are BCSP beneficiaries and have at least one child under 1 year of age)			
Outcome/ Indicator	Hard conditions vs. Soft conditions		Overall
	Hard conditions	Soft conditions	
<i>Illiterate/ uneducated; do not know how to withdraw money</i>	33.1%	31.7%	32.2%
	[0.065]	[0.094]	[0.063]
	49	30	79
<i>Bank staff is unhelpful</i>	40.0%**	15.8%	24.8%
	[0.083]	[0.070]	[0.062]
	49	30	79
<i>Bank refuses to pay out smaller amounts of money</i>	23.3%	13.6%	17.2%
	[0.055]	[0.064]	[0.047]
	49	30	79

**Source:** BCSP Midline Survey (Aug - Nov 2015).  
**Notes:** (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design.

Around 11 per cent of those who had withdrawn the cash transfer at least once reported that they had faced challenges in doing so. Some of the most common obstacles reported were – the bank branch being too far/ expensive to reach (33 per cent); being illiterate/ uneducated and therefore not knowing how to withdraw money (32 per cent); the bank staff being unhelpful (25 per cent); and, the bank refusing to disburse small amounts of money (17 per cent). Although the absolute numbers of those who faced challenges whilst withdrawing money is low, these findings do raise concerns of access and financial literacy among the beneficiaries.

## 4.7 Concluding remarks

While awareness levels of the BCSP were reasonably high (77 per cent of eligible women across the hard and soft conditions block), enrolment rates were currently relatively low (54 per cent). This is partly due to the fact that the mothers of older children in our sample were not able to enrol before their child was born. It is expected that enrolment will be higher at the endline.

However, there were also structural causes of low enrolment, particularly for SC women and those from the poorest households. These include higher rates of seasonal migration, discrimination by Anganwadi Workers, and generally lower rates of engagement with the ICDS system. These problems of exclusion and partial coverage rates require addressing. However, it is acknowledged that this is challenging, given how deeply entrenched social divisions are in Bihar.

Awareness about Community Monitoring Groups (CMGs) was very low, suggesting limited effectiveness of that channel of oversight and grievance redressal.

Overall, the payment system was seen to be functioning well. Due to the BCSP, there was a high increase in the proportion of women with bank accounts in their own name. Almost three-quarters of the beneficiaries reported that they had received the BCSP cash credit at least once since joining. The average amount of cash women had received was roughly in line with the proportion of conditions being met according to the BCSP MIS, suggesting that there was no leakage.

## 5 Resource effect

### 5.1 Introduction

As outlined in Chapter 1, the programme works through a direct transfer of cash to beneficiaries. This money can improve the nutrition status of women and children through various transmission mechanisms. Firstly, the cash transfer could increase household expenditure on food consumption. This may increase caloric consumption, and improve micronutrient intake of beneficiaries. Another pathway operates through increasing expenditure on other goods and services that improve nutrition outcomes (e.g. health services, improved sanitation etc.). As a result of increased interaction with the ICDS system, BCSP may also help in increasing spending on nutrition related consumption as a result of increased awareness about best health practices.

In this chapter, effects of the BCSP on health and nutrition related expenditures, especially food, are studied. Section 5.2 highlights the use of the cash transfer, as was reported by beneficiaries. Section 5.3 studies how household's weekly consumption of various food items changed due to the cash transfer. In Section 5.4, changes in household's caloric intake between the baseline and midline surveys is analysed. Section 5.5 looks at how the cash transfer impacted the diet diversity of mothers. Finally, Section 5.6 presents the midline estimates for child food consumption, calculated as per the World Health Organisation's Infant and Young Child Feeding (WHO-IYCF) guidelines.<sup>30</sup>

In this chapter, the difference-in-differences estimates are presented only for the soft conditions block versus the technology block. Since this chapter examines resource effects (i.e., the effects of receiving the BCSP cash transfer), comparing the soft conditions block to the only technology block helps us to isolate the impact of the cash transfer alone. Comparing the hard conditions to the soft conditions block, on the other hand, is more useful in Chapter 6, to isolate the effect of adding hard conditions.

### 5.2 Self-reported use of BCSP cash transfer

The midline survey collected detailed information on how beneficiaries spent the cash that they received from the BCSP. Table 5.1 shows that 66 per cent of those who had withdrawn their money at least once said that they usually spent at least a part of the money on the child; 69 per cent said they spent at least a part of it on themselves.

The quantitative survey also asked beneficiaries directly about how the cash transfer affected household expenditure patterns. When asked if their expenditure on food for their children had increased since they had started receiving BCSP cash transfers, 63 per cent of all beneficiaries responded in the affirmative. Around 20.5 per cent agreed that their spending on sanitation and hygiene had increased, and only 5 per cent agreed that BCSP cash had led to increase in expenditure on their children's education.

<sup>30</sup> World Health Organization. (2010).

**Table 5.1 At midline: Self-reported use of BCSP cash transfer**

<b>At midline : Self-reported use of BCSP cash transfer (for all respondents who have withdrawn the BCSP cash transfer at least once, and have at least one child under 1 year of age)</b>		
<b>Outcome/ Indicator</b>	<b>For both treatment blocks, combined</b>	
Beneficiaries who reported that they spend at least a part of the cash transfer on the child	66.0%	
	[2.774]	
	579	
Beneficiaries who reported that they spend at least a part of the cash transfer on themselves	69.1%	
	[2.730]	
	579	
Beneficiaries who said their expenditure on the following has increased since she started receiving BCSP cash transfers:		
	<i>Food for children</i>	62.8%
		[2.345]
		579
	<i>Food for self</i>	61.6%
		[2.495]
		579
	<i>Sanitation/ hygiene</i>	20.5%
		[2.793]
		579
	<i>Children's education</i>	4.6%
		[1.295]
	579	

**Source:** BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Nov 2015).  
**Notes:** (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* =95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design.

Very few beneficiaries reported expenditure on categories not related to the health/nutrition wellbeing of the mother or child. Less than 3 per cent of the sample reported expenditure on jewellery, clothes or footwear, household durables, investment in small business, livestock, alcohol and cigarettes, transfers to friends and family outside the household, utilities or home improvement (Annexe F.1.2)

Qualitative data was additionally able to provide a snapshot of the range of non-food expenditure incurred by the beneficiary. Data revealed that spending preferences were complex to understand because they were often made by various household members, and were not always entirely up to the 'owner' of the cash. For their child, beneficiaries in the qualitative sample mentioned that they had bought milk, biscuits, and other items of child care such as, soap, oil and clothes.

They also said that they sometimes bought medicines or used the Rs. 250 for other medical expenses they had to incur on themselves or on their child.

Some respondents preferred to save the monthly payment for bigger medical expenses and emergencies.

*Interviewer: What did you buy from last withdrawal?*

*Respondent: I didn't buy anything. I kept it for my delivery.*

*Interviewer: Do you prefer to withdraw money immediately, once you know it has reached your account or do you prefer to let it accumulate? What do you like to do?*

*Respondent: I withdraw after sometime and then I can withdraw some more amount. It can help me with my child. It can help me during illness of child.*

(BCSP beneficiary, 23 years, soft conditions block)

While Rs. 250 is not a large amount, as the money accrues, the possibility of family members weighing in on decision-making increases. In the next example, a respondent spoke of the conflicting opinions that she and her husband had on what to do with the cash transfer.

*Interviewer: Do you prefer to withdraw money immediately once you know it has reached your account or do you prefer to let it accumulate?*

*Respondent: I want to withdraw the money but my husband tell me not to withdraw. He says that I should let it accumulate.*

*Interviewer: Why do you want to withdraw?*

*Respondent: To have a proper diet. He is not well and I want to withdraw so that I can take him to the doctor. But my husband doesn't want to withdraw.*

*Interviewer: Why does he tell you not to withdraw?*

*Respondent: He says that we should utilize the money for our children's marriage. He wants to save for the future. But I tell him that the government is giving money to eat and so I should withdraw it.*

(BCSP beneficiary, 35 years, hard conditions block)

In summary, both quantitative and qualitative results showed that most women reported an increase in expenditure on food for herself and her child as a result of BCSP cash.

### 5.3 Changes in food consumption expenditure

Cash transfers might allow additional food to be purchased by households facing food deficits or hunger, and may also be invested in food production and income-generating activities. Provided there are no significant supply-side constraints in local food markets, household food security is therefore expected to improve, especially among poorer households, who typically spend higher proportions of their income on food than wealthier households do.<sup>31</sup>

The quantitative survey assessed the impact of the programme on food consumption by estimating the differences-in-differences impact measures for mean per capita weekly food consumption expenditure<sup>32</sup>, expenditure on foods belonging to various food groups, caloric intake and maternal dietary diversity. Food consumption is highly sensitive to seasonality, and to ensure comparability, data was collected during the same months of the year across the two surveys.

The quantitative survey asked households to recall the quantities and value of food consumed over the preceding seven days, for 72 items of consumption. This included food that was purchased, home-produced, or received as a gift. The estimates of average monthly total consumption were adjusted for the regional and time variation in prices using Paasche's price index<sup>33</sup>.

Table 5.2 below presents difference-in-differences estimates for impact on per capita weekly expenditure on food items for households in the soft conditions block compared to the only technology block.

<sup>31</sup> Zimmerman, C. C. (1932)

<sup>32</sup>Per capita consumption expenditure is a standard proxy for household welfare. Variation in this measure is easier to measure than that in income. It is also less prone to measurement error and less subject to short-term economic effects. Additionally, consumption expenditure provides an indirect measure of permanent income.

<sup>33</sup> Deaton, A., & Zaidi, S. (2002)

**Table 5.2 DID: Household weekly expenditure on food consumption**

<b>DID: household weekly expenditure on food consumption (In Rs.)</b>	
<b>Outcome/ Indicator</b>	<b>Soft conditions vs. Only technology</b>
	<b>Dif 2 - Dif 3</b>
Weekly per capita Food expenditure <sup>(3)</sup>	33.85*** (9.134)
<b>Weekly HH Food expenditure by food group</b>	
Food group A: Milk and milk products	26.02 (17.91)
Food group B : Meat Poultry and fish	75.91*** (15.74)
Food group C : Cereals	-24.12 (20.90)
Food group D : Pulses	-19.83** (8.110)
Food group E : Edible Oils	-11.85*** (3.814)
Food group F : Fresh fruits	5.445 (4.839)
Food group G : Dry fruits	0.431 (3.723)
Food group H : Vegetables	29.72*** (8.998)
Food group I : Condiments and spices	-4.016 (6.650)
Food group J : Sugar, honey and sugar preparations	14.89** (6.148)
Food group K : Non-alcoholic beverages	-1.184 (2.113)
Food group L : Misc. food items	10.57 (6.824)
Food group M : tobacco and alcohol	-3.264 (20.23)
<b>Source:</b> BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Nov 2015).	
<b>Notes:</b> (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: *** = 99%; ** =95%; * = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) Without applying controls, the value for this DID estimate is 21.6	

The analysis provides some evidence of a positive causal impact of BCSP cash on weekly per capita expenditure on food for HHs in soft conditions blocks vis-à-vis the only technology blocks. On average, households in the soft conditions block spent an additional Rs 34 (per capita, per week) on food as compared to households in the only technology block as a result of the cash transfer.

Examining Annexe F.2.2 shows that across time periods, weekly household spending on sugar products and meat, poultry and fish increased significantly in both treatment blocks, but not in the control blocks. Spending on vegetables rose in the treatment blocks (not significantly in the hard conditions block) and fell in the control blocks (significantly only in the pure control block). Spending

on cereals fell across all blocks; but this decrease was significant only in the soft conditions block and the pure control block.

The difference-in-differences estimates presented in Table 5.2 above reveal that, compared to the only technology block, the BCSP had a positive causal impact in the soft conditions block on household expenditure on meat poultry and fish, vegetables and sugar products. Compared to the technology block, households in the soft conditions blocks spent (on average) an additional Rs. 76 on meat, poultry and fish, and an additional Rs. 30 on vegetables. On the other hand, the cash transfer had a significant negative impact on household weekly expenditure on pulses and edible oils in the soft conditions block, compared to the only technology block, implying a substitution effect. No impact on expenditure on tobacco or alcohol consumption was detected.

The qualitative survey specifically asked beneficiaries which food items they spent their BCSP cash on. Interviews revealed that for themselves, beneficiaries bought fruits, green vegetables, dry fruit, dates and raisins. Many of them also purchased milk and milk supplements such as Horlicks or Bournvita. One or two respondents also added that if they bought milk supplements, a major proportion of the Rs. 250 would be spent on one purchase, leaving no money to buy other things.

## 5.4 Changes in caloric intake

The quantitative analysis found that between the baseline and midline surveys, calories consumed (per capita, per day) decreased significantly in all blocks except the hard conditions block (Annexe F.3.2). This finding is in line with earlier literature on this subject.<sup>34</sup> The decrease was, however, of a smaller magnitude in treatment blocks compared to control blocks. Directionally positive difference-in-differences impact estimates from Table 5.3 below possibly indicate that it was the BCSP that softened the decline in calories consumed in the soft conditions block. However, impact estimates are not significant at the 90 per cent level, and carry large standard errors. As such, it is not enough to establish that the BCSP significantly improved household calorie consumption in the past year.

**Table 5.3 DID: Calorie consumption**

DID: Calorie consumption	
Outcome/ Indicator	Soft conditions vs. Only technology
	Dif 2 - Dif 3
Calories consumed per capita per day	65.12 (68.76)
HH money spent per 1000 calories bought	1.610*** (0.466)

**Source:** BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Nov 2015).  
**Notes:** (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design.

Given the finding that BCSP has caused households to increase expenditure on food, but not increase calorie consumption, it appears that households do not necessarily purchase calorie rich foods with the extra cash. In order to capture the effect of the cash transfer on changing household food expenditure patterns, money spent per 1000 calories purchased was calculated. Difference-in-differences estimates show that on average, households in the soft conditions block spent an additional Rs. 1.6 on purchasing a 1000 calories, as compared to households in the only technology block.

<sup>34</sup> Deaton, A., & Drèze, J. (2009).

This increase, combined with the earlier finding that households in the soft conditions block are increasing food consumption expenditure, but cutting back on total calories consumed, it can be concluded that, on average, households belonging to the soft conditions blocks spent cash on relatively more expensive sources of calories, like meat, fruits, vegetables and packaged foods, compared to say, cereals (vis-à-vis the only technology block). This hypothesis is supported by data from Section 5.3, which showed that the cash transfer had a positive impact on expenditure on vegetables, sugar products and meat.

## 5.5 Maternal food consumption and diet diversity

The difference-in-differences estimates in Table 5.4 below summarizes the impact of BCSP cash on maternal diet diversity. Foods were classified into 13 broad groups, and analysed in terms of the percentage of women who reported consuming a food belonging to the said group.

**Table 5.4 DID: Maternal diet diversity**

<b>DID: Maternal diet diversity indicators</b>	
<b>Outcome/ Indicator</b>	<b>Soft conditions vs. Only technology</b>
	<b>Dif 2 - Dif 3</b>
Number of food groups consumed by mother (out of 13)	0.564***
	-0.205
Percentage points of mothers who consumed foods from the following food groups:	
Food group A : Milk and milk products	0.0524
	-0.0434
Food group B: Meat. Poultry and fish	0.342***
	-0.0461
Food group C: Cereals	0.000323
	0.0001
Food group D : Pulses	-0.0268
	-0.0227
Food group E : Edible oils	0.00462
	-0.00532
Food group F : Fresh fruits	0.0915*
	-0.0471
Food group G : Dry fruits	0.0409
	-0.0256
Food group H : Vegetables	0.00481
	-0.0042
Food group I : Condiments and spices	-0.00124
	-0.00242
Food group J : Sugar and honey	0.0036
	-0.0403
Food group K : Non-alcoholic beverages	-0.03
	-0.0403

DID: Maternal diet diversity indicators	
Outcome/ Indicator	Soft conditions vs. Only technology
	Dif 2 - Dif 3
Food group L : Misc. food items	0.118**
	-0.0548
Food group M : tobacco and alcohol	-0.0366
	-0.0374

**Source:** BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Nov 2015).  
**Notes:** (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) The figures for the above indicators should be multiplied by 100 to be interpreted as percentage points. For instance, 0.25 should be interpreted as 25 percentage points.

The difference-in-differences impact estimates from the table above reveal that women of households in the soft conditions block, as a result of receiving BCSP cash, on average, consumed foods from an additional 0.56 food groups, when compared to the only technology block. This increase is significant at the 99 per cent level; however, it is of a small magnitude.

Quantitative analysis provided evidence that women in soft conditions blocks, on average, consumed more meat, poultry and fish, fresh fruits, and miscellaneous items (these include packaged foods, snacks etc.). For example, in the soft conditions block, an additional 34 percentage points of women reported consuming meat, fish and poultry, in the week before the survey, when compared to women in the only technology block. This increase was significant at the 99 per cent level. An additional 12 percentage points of women reported consuming foods belonging to the miscellaneous foods category, when compared to the only technology block (significant at the 95 per cent level).

Qualitative data also offers an insight into maternal diet diversity. During the qualitative interviews, when asked about the impact the Rs. 250 had had on their lives, some beneficiaries expressed a change in the type of food items they were able to purchase after having received the cash incentive; they were able to afford a greater variety and quality of items than before.

*Interviewer: Since you got [the BCSP] money has there been any change in your eating habits?*  
*Respondent: We used to eat only rice, daal and all. Now we can eat rice with milk, vegetable also.*  
*Interviewer: Okay what about children, this all you told about yourself?*  
*Respondent: They are also getting milk now. What I eat, [the] same [food] my child will get. We also get juice to drink.*

(BCSP beneficiary, 24 years, hard conditions block)

## 5.6 Child food consumption

To investigate infant and young child feeding practices, indicators related to the child's food consumption were calculated according to the WHO IYCF guidelines<sup>35</sup>. The quantitative study asked women about which foods and liquids she had fed her child in the twenty-four hours before the survey. Although this question was asked during both the baseline and midline surveys, some food items were incomparable. As a result, for the present study, difference-in-differences impact estimation could be carried out for only a handful of the WHO IYCF indicators (Table 5.5). A comparable list of food items will be used in the end line survey, so that difference-in-differences estimates can be performed for a larger number of indicators.

<sup>35</sup> World Health Organization. (2010).

**Table 5.5 DID: WHO IYCF indicators (for all children under the age of 2 years)**

<b>DID : WHO IYCF indicators (for all children under the age of 2 years)</b>	
<b>Outcome/ Indicator</b>	<b>Soft conditions vs. Only technology</b>
	<b>Dif 2 - Dif 3</b>
Early initiation of breastfeeding <sup>(3)</sup>	0.00331 (0.0311)
Exclusive breastfeeding under 6 months	-0.0390 (0.0669)
Continued breastfeeding at 1 year <sup>(4)</sup>	-0.000764 (0.0349)
Introduction of solid, semi-solid or soft foods <sup>(5)</sup>	0.146* (0.0780)

**Source:** BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015).  
**Notes:** (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) For children between 0-24 months of age. (4) For children between 12-15 months of age (5) For children between 6-8 months of age. (6) The figures for the above indicators should be multiplied by 100 to be interpreted as percentage points. For instance, 0.25 should be interpreted as 25 percentage points.

Looking at the estimates in Table 5.5 above, it can be seen that the performance of IYCF indicators did not vary much between the three blocks – except in the case of introduction of solid, semi-solid or soft foods. An additional 15 percentage points of children aged 6-8 months in the soft conditions block compared to the only technology block had been introduced to solid, semi-solid or soft foods (i.e. had received such foods on the day preceding the survey), significant at the 90 per cent level.

Table 5.6 below presents the midline estimates for the complete list of WHO IYCF indicators. From the table, it can be seen that a significantly higher proportion of children had a minimum acceptable diet (at the 90 per cent level of significance) and achieved minimum diet diversity (95 per cent level of significance) in the soft conditions block, when compared to the only technology block. Detailed analysis shows that this is driven by the fact that children in the soft conditions block consumed more pumpkins/sweet potatoes, white potatoes/other roots and beans/peas/lentils/etc. (Annexe F.5.4). However, absolute consumption levels of these items, remain very low. The indicator levels for minimum diet diversity and minimum acceptable diet also remain very low even in the soft and hard conditions block, implying that the BCSP cash is relatively ineffective at improving these dimensions of IYCF. It may be that if nutrition counselling was provided alongside the cash transfer, it would have more of an effect.

**Table 5.6 At midline: WHO IYCF indicators**

<b>At midline : WHO IYF indicators (for all children under the age of 2 years)</b>					
<b>Outcome/ Indicator</b>	<b>Hard conditions</b>	<b>Soft conditions</b>	<b>Only technology</b>	<b>Pure control</b>	<b>Overall</b>
Early initiation of breastfeeding <sup>(3)</sup>	53.5%	57.00%	53.8%**	48.2%	54.2%
	[0.017]	[0.018]	[0.017]	[0.020]	[0.010]
	1561	1671	1610	1445	6287
Exclusive breastfeeding under 6 months	35.7%	34.40%	33.7%	29.6%	33.8%
	[0.026]	[0.033]	[0.027]	[0.038]	[0.018]
	380	360	298	270	1308
Continued breastfeeding at 1 year <sup>(4)</sup>	87.8%	87.1%	88.5%	84.1%	87.1%
	[0.019]	[0.019]	[0.017]	[0.030]	[0.011]
	246	317	309	291	1163

At midline : WHO IYF indicators (for all children under the age of 2 years)					
Outcome/ Indicator	Hard conditions	Soft conditions	Only technology	Pure control	Overall
Introduction of solid, semi-solid or soft foods <sup>(5)</sup>	69.7%	71.4%	64.5%	66.4%	68.2%
	[0.033]	[0.030]	[0.034]	[0.038]	[0.018]
	227	230	239	211	907
Minimum dietary diversity <sup>(6)</sup>	13.4%	11.7%***	7.7%	6.2%	9.7%
	[0.016]	[0.012]	[0.009]	[0.008]	[0.006]
	1181	1311	1312	1175	4979
Minimum meal frequency <sup>(7)</sup>	65.3%	64.1%	64.5%	66.0%	64.7%
	[0.018]	[0.016]	[0.016]	[0.017]	[0.009]
	1181	1311	1312	1175	4979
Minimum acceptable diet <sup>(8)</sup>	9.8%*	7.2%*	5.2%	3.70%	6.30%
	[0.013]	[0.008]	[0.007]	[0.006]	[0.005]
	1181	1311	1312	1175	4979

**Source:** BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015).  
**Notes:** (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* =95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) For children between 0-24 months of age (4) For children between 12-15 months of age (5) For children between 6-8 months of age (6) For children between 6-23 months of age (7) For children between 6-23 months of age (8)For children between 6-23 months of age

## 5.7 Concluding remarks

The quantitative study results show that a majority of women reported that cash from BCSP had led to an increase in household expenditure on food both for them, and their child. Qualitative data too, indicated that women generally spent the money on fruits, vegetables and milk for her child and for herself.

Difference-in-differences impact estimates show that the cash transfer had a positive impact on weekly household food expenditure in the soft conditions blocks -- particularly on vegetables, sugar products, meat, poultry and fish, compared to the only technology block. Falling calorie intake and increasing food expenditure means that people in general, and especially in soft conditions blocks, are shifting from calorie rich foods to other, more expensive sources of calories. These shifts in sources of calories may or may not be pro-nutrition and hence appropriate communication and counselling have a crucial role to play.

By analysing the food consumption data of the mother, the quantitative study showed that women in treatment blocks consumed food from a significantly greater number of food groups, compared to control blocks. Mothers in the soft conditions block consumed more meat, fruits and other miscellaneous items. There was no clear evidence to show that BCSP improved child diets, though the indicator related to introduction of semi solid and solid foods showed some improvement as a result of the cash transfer.

Hence, there is evidence to show that BCSP has contributed to an increase in household expenditure on a larger variety of food items, and also impacted maternal diet diversity positively. There was no evidence that the cash was used to increase expenditure on undesirable items like alcohol and cigarettes.

## 6 Conditions effect

### 6.1 Introduction

As outlined in Chapter 5, besides directly benefiting beneficiaries through cash, the BCSP aims to improve maternal and child nutritional outcomes by making the cash transfer conditional in nature. The underlying reasons for attaching conditions to receiving the BCSP cash are that (i) uptake of services and (ii) the adoption and practice of nutrition sensitive behaviours are understood to be (a) too low and (b) amenable to change through the provision of an incentive.

Figure 6.1 below lists the four conditions that are attached to the BCSP in the soft conditions block, along with the four *additional* conditions that are imposed in the hard conditions block. This chapter seeks to analyse the impact of enforcing these conditions on both service uptake and nutrition sensitive behaviour.

**Figure 6.1: Hard and soft conditions of the BCSP**

Soft conditions	 <p>Monthly Attendance at Village Health, Sanitation and Nutrition Days</p>	 <p>Weight Gain Monitoring during Pregnancy</p>	 <p>Child Growth Monitoring</p>	 <p>Correct Treatment of Diarrhoea (ORS and Zinc)</p>
Hard conditions	 <p>Receipt of IFA Supplementation during Pregnancy</p>	 <p>Birth Registration</p>	 <p>Exclusive Breastfeeding under 6 months</p>	 <p>Measles Vaccination</p>

This chapter presents impact estimates for conditions while dividing them into two groups. The first focuses on conditions that relate to uptake of health services. These include monthly attendance at the VHSND, weight gain monitoring during pregnancy, child growth monitoring, receiving IFA tablets, and birth registration. The condition around getting children vaccinated against Measles is not discussed here because the vaccination is given at / after the child attains the age of 9 months and a very small sample of such children were exposed to the programme at the midline. The second group of conditions discusses the remaining conditions that relate to nutrition sensitive behaviours; these are the correct treatment of diarrhoea with ORS and Zinc, and exclusive breastfeeding for the first six months of a child's life.

The structure of the chapter is as follows. Section 6.2 discusses the conditions related to service uptake. Section 6.2.1 describes attendance at the AWC on the VHSND. The proportion of women who attended the VHSND is quantified and dovetailed with explanations from the qualitative survey for why women do and do not come to the VHSND. At the VHSND, a pregnant woman is weighed and provided counselling, and a child's weight is also monitored. Details of this, including self-reported behaviour change after counselling, are reported in Section 6.2.2 and Section 6.2.3. Section

6.2.4 details the stock and receipt of IFA supplements. Then, Section 6.2.5, relates to child birth registration rates. Section 6.5 looks at how uptake of services differed by socio-economic status.

Section 6.3 discusses the conditions related to nutritional behaviour – the correct treatment of diarrhoea (Section 6.3.1), and exclusive breastfeeding (Section 6.3.2). Section 6.4 talks about awareness levels for each condition being a possible explanation low uptake of certain services. Section 6.5 relates to equity considerations in uptake of services. In addition to the eight conditions described Figure 6.1, two additional bonus conditions were also piloted, one in each block. These include the birth spacing bonus in the soft conditions block (designed to encourage beneficiaries to increase the gap between two births) and the nutritional outcome bonus (designed to encourage beneficiaries to ensure their child is not underweight) in the hard conditions block. Section 6.6 outlines how these bonus conditions cannot be analysed at the midline.

## 6.2 Uptake of services

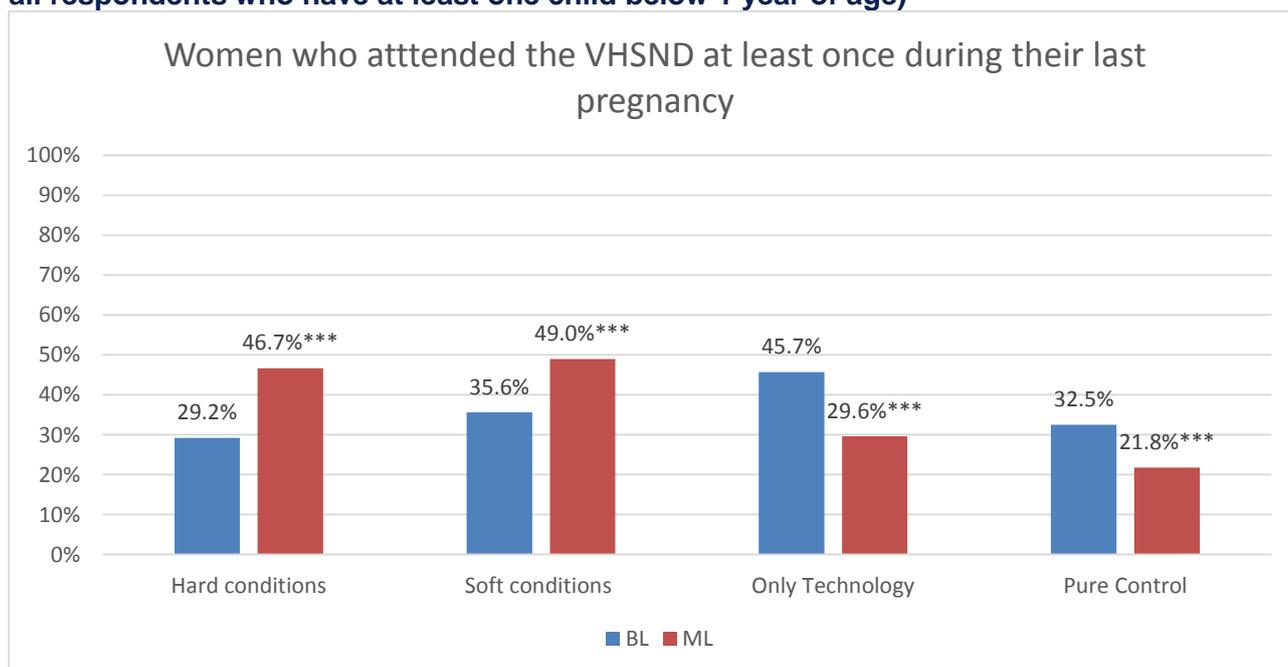
### 6.2.1 Attendance at VHSND

In both treatment blocks, the cash transfer is conditional on women attending Village Health Sanitation and Nutrition Days (VHSND) every month, along with a set of additional conditions, many of which may be met during the VHSND. The VHSND is held once a month, usually at the AWC of the village. On this day, women interact with frontline public health personnel and obtain free basic services and information related to best health and nutritional practices. Hence, attendance at the VHSND acts as a proxy for receiving counselling sessions and related health and nutrition services.

Between the baseline and the midline survey, the proportion of women who attended the VHSND at least once during their pregnancy increased significantly in both treatment blocks (Annexe G.1.2). In the pure control and the only technology blocks, on the other hand, this proportion fell significantly.

Figure 6.2 represents these results.

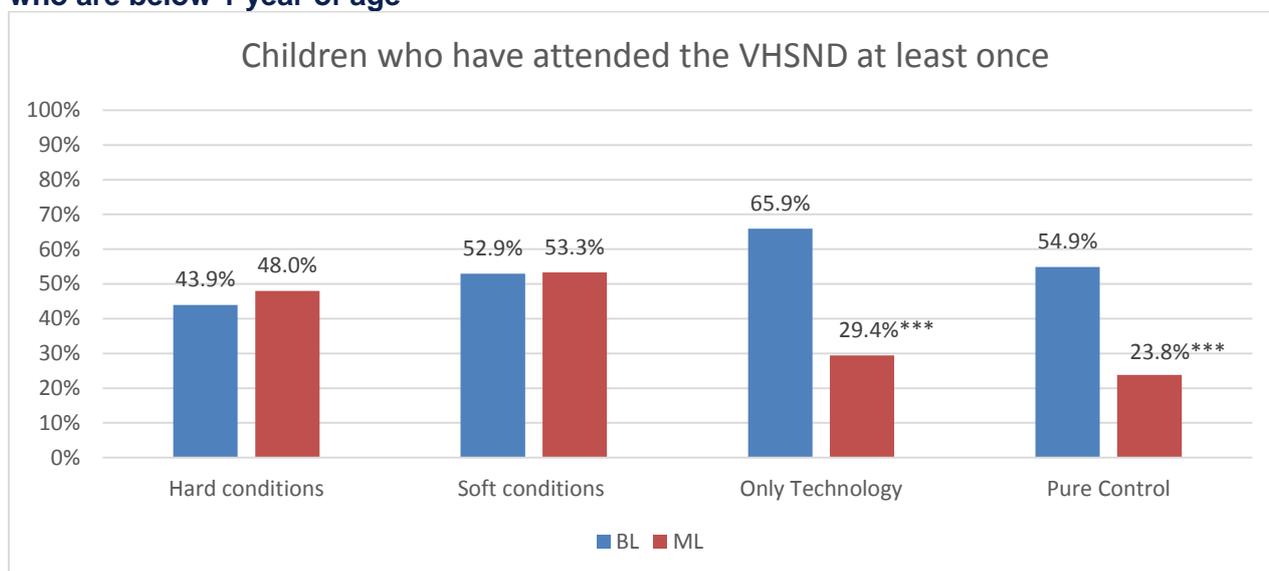
**Figure 6.2 Per cent of women who attended at least one VHSND during last pregnancy (For all respondents who have at least one child below 1 year of age)**



**Source:** BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015). For more information, please refer to Annexe G.1.2.

Similar results are seen in Figure 6.3 for women attending the VHSND with their children after birth.

**Figure 6.3 Per cent of children who have attended the VHSND at least once (For all children who are below 1 year of age)**



**Source:** BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015). For more information, please refer to Annexe G.1.2.

Based on the difference-in-differences impact estimates for the soft conditions block compared to the only technology block in Table 6.1 below, adding in the conditionality is responsible for a 28 percentage points increase in attendance by women, and a 38 percentage points increase in attendance by children. These are significant at the 99 per cent level. Introducing hard conditions had no significant additional impact on attendance rates (compared to the soft conditions block).

**Table 6.1 DID: Uptake of services - VHSND attendance**

DID : Indicators related to conditions on the uptake of services – VHSND attendance		
Outcome/ Indicator	Hard conditions vs. Soft conditions	Soft conditions vs. Only technology
	Dif 1 - Dif 2	Dif 2 - Dif 3
<b>VHSND attendance</b>		
Women who attended the VHSND at least once during their last pregnancy	0.0388	0.284***
	(0.0572)	(0.0661)
Children who have attended the VHSND at least once	0.0351	0.379***
	(0.0578)	(0.0609)

**Source:** BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015).  
**Notes:** (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) The figures for the above indicators should be multiplied by 100 to be interpreted as percentage points. For instance, 0.25 should be interpreted as 25 percentage points.

Additionally, there is evidence to indicate that during their previous pregnancy, not only did women in either treatment block go to at least one VHSND more often, but they went to a significantly higher number of VHSNDs on average. During her last pregnancy, an average women went to the VHSND 2.8 times in the soft conditions blocks, and 2.5 times in the hard conditions block. The corresponding

number for only technology block was significantly lower (at the 99% level) at 1.8 times. (Annexe G.1.4)

## 6.2.2 Weight monitoring during pregnancy

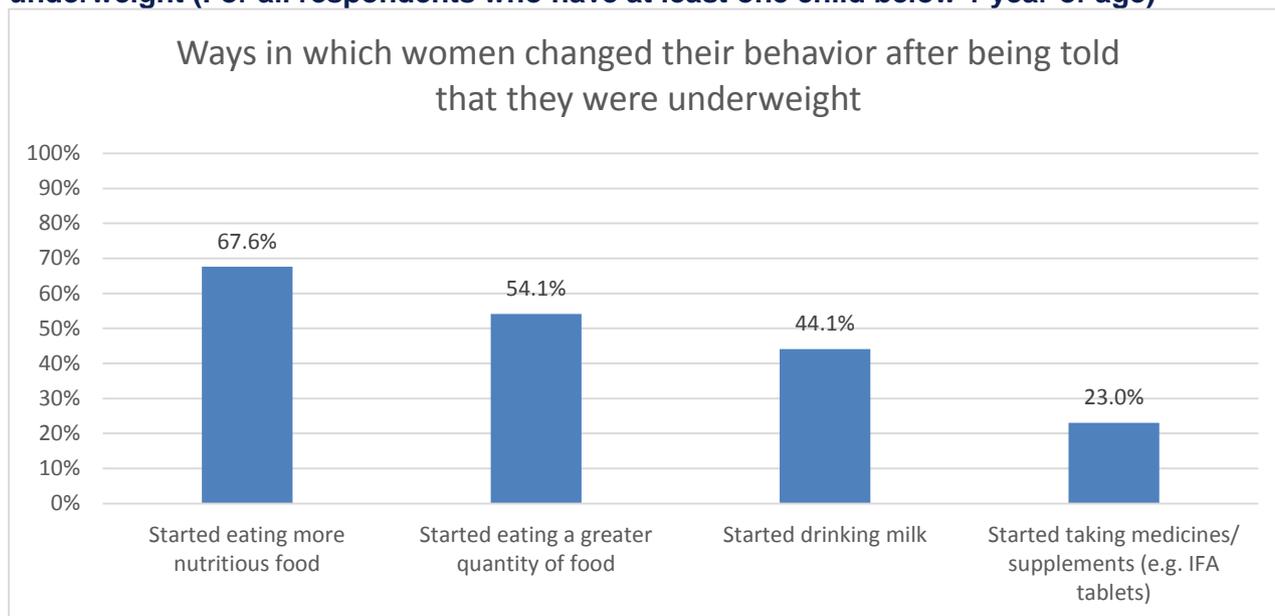
The quantitative survey discovered trends similar to VHSND attendance in the case of weight gain monitoring during pregnancy across the baseline and midline surveys. The proportion of women who got their weight checked at least once during their last pregnancy increased significantly in both treatment blocks, but decreased significantly in the pure control block. The only technology block showed no significant change (Annexe G.1.2). This is also reflected in the difference-in-differences estimates given in Table 6.2 -- as a result of BCSP, the soft conditions block saw an increase of 25 percentage points in the proportion of women who got their weight checked at least once during their last pregnancy vis-à-vis the only technology block. Besides being more likely to get their weight checked at least once during their last pregnancy, women in treatment blocks also got their weight checked more often than women in the only technology block. (Annexe G.1.4). On average, a woman in the treatment blocks got her weight checked 3 times during her previous pregnancy at the midline stage. The corresponding number for the technology only block was (significantly) lower at 2.5 times.

**Table 6.2 DID: Uptake of services - weight monitoring during pregnancy**

DID : Indicators related to conditions on the uptake of services – weight monitoring during pregnancy		
Outcome/ Indicator	Hard conditions vs. Soft conditions	Soft conditions vs. Only technology
	Dif 1 - Dif 2	Dif 2 - Dif 3
<b>Weight monitoring during pregnancy</b>		
Women who had their weight checked at least once during their last pregnancy, if they had received at least one antenatal check-up	-0.0770 (0.0641)	0.248*** (0.0629)
<p><b>Source:</b> BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015).  <b>Notes:</b> (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: *** = 99%; ** =95%; * = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) The figures for the above indicators should be multiplied by 100 to be interpreted as percentage points. For instance, 0.25 should be interpreted as 25 percentage points.</p>		

An important aspect of attending the VHSND is that it facilitates counselling by AWWs to pregnant and lactating women, regarding best health practices. During the quantitative midline survey, women whose weight had been monitored at least once during their last pregnancy were asked whether they took any action if they found out they were not gaining enough weight. This was to see whether the beneficiaries saw any purpose in fulfilling the condition of weight monitoring, i.e., whether they changed their behaviour to improve their nutrition. The results are presented in Annexe G.1.3. Around 41 per cent women (of those who had their weight checked at least once during pregnancy) across the four blocks reported that they had been told that they were not gaining enough weight during their pregnancy. Of these, almost 77 per cent said that they changed their behaviour in response. Some of the common behaviours adopted are presented in Figure 6.4.

**Figure 6.4 Ways in which women changed their behaviour after being told that they were underweight (For all respondents who have at least one child below 1 year of age)**

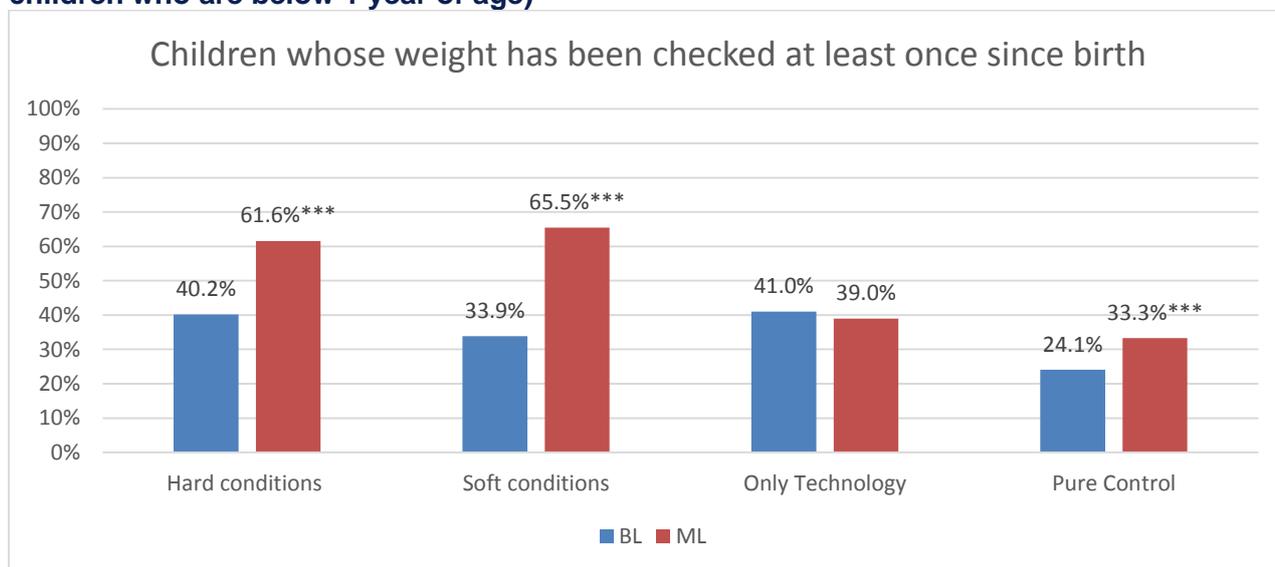


Source: BCSP Midline Survey (Aug - Oct 2015). For more information, please refer to Annexe G.1.3

### 6.2.3 Growth monitoring of children

Across the two surveys, the proportion of children whose weight was checked at least once since birth increased significantly in three out of four blocks. A non-significant decrease was seen in the only technology block.

**Figure 6.5: Children whose weight has been checked at least once since birth (For all children who are below 1 year of age)**



Source: BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015). For more information, please refer to Annexe G.1.2.

Difference-in-differences estimates in Table 6.3 reveal that as a result of the BCSP, an additional 35.5 percentage points of children were weighed at least once in the soft conditions block, when compared to the only technology block.

In the hard conditions block, there has been an overall increase in the per cent of children who have ever been weighed. However, this increase is lower than the increase seen in the soft conditions block. As a result, the difference-in-differences impact estimate that compares the hard conditions block to the soft conditions block is negative, and significant at the 95% level.

**Table 6.3 DID: Uptake of services – child growth monitoring**

DID : Uptake of services – child growth monitoring		
Outcome/ Indicator	Hard conditions vs. Soft conditions	Soft conditions vs. Only technology
	Dif 1 - Dif 2	Dif 2 - Dif 3
<b>Child growth monitoring</b>		
Children whose weight has been checked at least once since birth	-0.112**	0.355***
	(0.0553)	(0.0435)
<p><b>Source:</b> BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015).  <b>Notes:</b> (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: *** = 99%; ** =95%; * = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) The figures for the above indicators should be multiplied by 100 to be interpreted as percentage points. For instance, 0.25 should be interpreted as 25 percentage points.</p>		

Table 6.4 compares the per cent of children who have ever been weighed after birth, based on having (or not having) a functional weighing machine in the AWC. There were no significant differences between these two groups. This shows that the increase in children being weighed did not depend on the presence of weighing machines at the AWC, suggesting that beneficiaries were able to source alternative provision to meet the condition, presumably from the private sector.<sup>36</sup>

**Table 6.4 At midline: Children who have ever been weighed, by availability of weighing machine**

At midline : Children who were ever weighed after birth, by availability of weighing machine at AWC						
Outcome/ Indicator	Hard conditions		Soft conditions		Only Technology	
	Weighing machine available	No weighing machine available	Weighing machine available	No weighing machine available	Weighing machine available	No weighing machine available
Per cent of children who have ever been weighed after birth	61.7%	61.9%	66.9%	59.4%	41.0%	35.4%
	[0.037]	[0.066]	[0.031]	[0.070]	[0.037]	[0.041]
	639	243	701	177	526	274
<p><b>Source:</b> BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015).  <b>Notes:</b> (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: *** = 99%; ** =95%; * = 90%. (2) Appropriate Stata 14 commands were used to account for survey design.</p>						

## 6.2.4 IFA supplementation during pregnancy

The qualitative midline study found that IFA tablets were not available at the time of the survey and had not been distributed during VHSNDs. When AWWs and ASHAs were probed on how long this

<sup>36</sup> While the midline evaluation did not investigate how beneficiaries who received services from alternative sources proved this to the AWW, the programme guidelines require such beneficiaries to submit proof in the form of a receipt or a note from the service provider.

had been the case, they said that they had not been receiving tablets for a few months with some villages not receiving tablets for almost a year.

The quantitative study also found that the proportion of AWWs stocking IFA tablets at the time of the midline survey was very low. Overall, only 14 per cent of the AWWs reported that they had the tablets in stock, with no significant differences across blocks (Annexe G.1.5). However, the proportion of women receiving IFA tablets increased by a large extent in all blocks, between the baseline and midline surveys (Annexe G.1.2). In Table 6.5, difference-in-differences impact estimates show that the adding in the hard conditions had a significant positive impact on the proportion of women receiving IFA tablets in the hard conditions block, when compared to the soft conditions block. By virtue of being a hard condition, an additional 13.1 per cent women (significant at the 99 per cent level), reported receiving IFA tablets in the hard conditions block, compared to the block with soft conditions, where consuming IFA tablets is not a stipulated condition. The estimate that compares the soft conditions block with the only technology block is not statistically significant.

**Table 6.5 DID: Uptake of services – IFA supplementation**

DID : Uptake of services – IFA supplementation		
Outcome/ Indicator	Hard conditions vs. Soft conditions	Soft conditions vs. Only technology
	Dif 1 - Dif 2	Dif 2 - Dif 3
<b>IFA Supplementation</b>		
Women who received at least 30 IFA tablets during their last pregnancy	0.130***	0.0486
	(0.0468)	(0.0494)
<p><b>Source:</b> BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015).  <b>Notes:</b> (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: *** = 99%; ** = 95%; * = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) The figures for the above indicators should be multiplied by 100 to be interpreted as percentage points. For instance, 0.25 should be interpreted as 25 percentage points.</p>		

There could be two reasons for the increase in receipt, despite poor availability. First, stocks of IFA tablets may have been even worse during baseline, and the current (still low) levels of availability are actually an improvement. Unfortunately, data on IFA tablet availability was not collected at the baseline survey to back up this hypothesis. Alternatively, like in the case of weighing machines, beneficiaries procured IFA tablets, irrespective of the availability of stock at the AWC. As was postulated earlier, these tablets could have been procured from private facilities, but could also have been distributed by the Auxiliary Nurse Midwife and stored at the sub-centre level not the AWC.

In the qualitative interviews, for women who did consume IFA tablets, the qualitative survey asked them where they received them from. Women indeed showed a preference for private facilities over the government facility/ AWC. The following quote is indicative of one the reasons why this is so.

*Interviewer: What are the benefits of iron tablets?*

*Respondent: I don't know what benefits it has. I took her to the private doctor and there she got everything, iron tablets and all. Sometimes they give expired medicines in the AWC and we don't trust them much.*

(BCSP beneficiary's mother-in-law, 72 years, soft conditions block)

To gauge whether women understood the benefit of the condition placed on them, the qualitative study asked why they thought they should be consuming these supplements. Women were aware of the benefits of taking the supplements. They spoke of the benefits of the iron tablets – especially the physical strength it provided during their pregnancy and that it could help the new born child's health. Women were also asked if they took these pills, and most of the women interviewed, among

those who had received iron tablets from the AWC, said that they had discontinued doing so due to side effects - such as nausea and dizziness. Very few respondents reported consuming all the tablets they were given at the AWC.

AWWs and ASHAs were interviewed to ask if they knew of the reasons why women stopped taking the tablets; and that their views reflected those of the respondents. They said that women complained about facing side effects after consuming the tablets. When they came across these complaints, they said that they tried to provide solutions by suggesting women have the tablets after dinner and before sleeping, which would reduce side effects.

For the design of the BCSP, the conditions placed on services such as IFA tablets can incentivise receipt of tablets – a behaviour that is verifiable, especially if tablets are available and provided at the AWC. However, incentivising receipt of tablets is not the same as consuming these tablets. It is not clear that the increase in receiving tablets translated to an increase in consuming tablets.

## 6.2.5 Child birth registration

The quantitative survey showed that in the past year, the proportion of children whose birth was registered saw a significant increase in the hard conditions, only technology and pure control blocks, and a non-significant increase in the soft conditions block (Annexe G.1.2). Difference-in-differences impact estimates (presented in Table 6.6 below) for this indicator do not provide significant results for either treatment block. The effect will be reviewed again at the end line stage to see if it has become statistically significant.

**Table 6.6 DID: Uptake of services – Birth registration**

DID: Uptake of services – Birth registration (For all children below the age of 1 year)		
Outcome/ Indicator	Hard conditions vs. Soft conditions	Soft conditions vs. Only technology
	Dif 1 - Dif 2	Dif 2 - Dif 3
Children whose birth was registered	0.0584	-0.0143
	(0.0442)	(0.0448)

**Source:** BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015).  
**Notes:** (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) The figures for the above indicators should be multiplied by 100 to be interpreted as percentage points. For instance, 0.25 should be interpreted as 25 percentage points.

The qualitative study showed that awareness regarding birth registration had increased. AWWs and ASHAs, in their interviews for the qualitative midline study, said that awareness about the importance of birth certificates had increased in all blocks in recent years as they were required as proof-of-age in/ education institutions and conducting marriages. The likelihood of receiving a cash incentive, possibly under the Jansankhya Sthirata Kosh's (JSK)<sup>37</sup> Prerna Scheme could be one of the reasons that drives demand for certificates.

Despite the increasing awareness of the importance of birth certificates, women were unaware about where they could get the birth certificates made, and as a result, many of them did not have certificates for their children. Women who had registered their child's birth certificates, had done so

<sup>37</sup>In order to help push up the age of marriage of girls and space the birth of children in the interest of health of young mothers and infants, Jansankhya Sthirata Kosh (National Population Stabilization Fund) - an autonomous body of the MoHFW, Govt. of India has launched PRERNA, a Responsible Parenthood Strategy in all districts of seven focus states namely Bihar, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Jharkhand, Odisha, and Rajasthan. (Government of India Ministry of Health and Family Welfare, 2015)

at the government hospital after their child's birth there. If a child had been born in a private hospital, respondents found it difficult to obtain a birth certificate afterwards. Qualitative interviews revealed that the informal costs of obtaining a certificate ranged from Rs. 50 to Rs. 200.

## 6.3 Uptake of nutrition-sensitive behaviour

### 6.3.1 Correct treatment of diarrhoea

All surveyed women were asked what they thought the treatment for diarrhoea was, and if their child(ren) received ORS treatment when he/she contracted diarrhoea. The results, for both awareness and uptake for the correct treatment of diarrhoea are presented in Table 6.7 below.

**Table 6.7 DID: Correct treatment of diarrhoea – awareness and practice**

DID: Correct treatment of diarrhoea - awareness and practice			
Outcome/ Indicator	Hard conditions vs. Soft conditions	Soft conditions vs. Only technology	
	Dif 1 - Dif 2	Dif 2 - Dif 3	
<b>Correct treatment of diarrhoea</b>			
Women aware that the treatment for diarrhoea is:			
	<i>ORS and Zinc</i>	-0.0253 (0.0329)	-0.0235 (0.0306)
	<i>ORS</i>	-0.0514 (0.0369)	0.00811 (0.0298)
	Children who received ORS treatment for diarrhoea <sup>3</sup>	-0.105 (0.101)	0.0372 (0.0891)
<p><b>Source:</b> BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015).  <b>Notes:</b> (1) Asterisks (*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: *** = 99%; ** = 95%; * = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) The figures for the above indicators should be multiplied by 100 to be interpreted as percentage points. For instance, 0.25 should be interpreted as 25 percentage points.</p>			

The difference-in-differences impact estimates do not yield any significant impact on awareness about the correct treatment of diarrhoea in the soft conditions block (where it is a required condition), when compared to the pure technology block. The estimates that compare change in awareness between the hard conditions block and the soft conditions block are also insignificant.

Similarly, the estimate for the indicator that measures the percentage of children who actually received ORS treatment for diarrhoea, shows no significant impact in either treatment block. This will be re-examined at the end line.

The qualitative study found that the ANMs and ASHAs distribute ORS packets to women in the village. ASHAs often received these packets from the government hospital or from the ANM, who sometimes leaves extra packets behind after distributing it to women in the village. However, health workers, in their in-depth interviews, spoke of the irregular supply of ORS packets and that they had once even received expired ORS packets from the government hospital. In the case of unavailability at the AWC, if the mother did use ORS or Zinc when a child had diarrhoea, it is likely that they had bought it from private clinics or medical shops, often on recommendation of government health workers.

The following is an excerpt from an interview with an ASHA in the hard conditions block:

*Interviewer:* Did you get expired ORS?

*Respondent:* Actually before giving [ORS] to the child, we check the expiry date. One day we [gave] the expire[d] ORS liquid; then somebody told us that it has expired. So from that we used to check the expiry date. Even though the mistake happened once, we learnt from our mistake.

*Interviewer:* How many times did you get the expired medicine?

*Respondent:* It happened only once.

(ASHA, 35 years, hard conditions block)

Health workers said that women first administered ORS or a sugar and salt solution to the child and if the situation worsened, the women referred them to a private doctor. To corroborate, mothers and their mothers-in-law were asked what they did or will do if their child/grandchild ever had diarrhoea, and a majority of them said that they took their child to a private doctor. Going to a doctor was their first response – it was only on probing that they mention administering ORS solution or sugar and salt solution to the child. A small proportion of respondents, in the qualitative sample said that they had gone to the ASHA or AWW to ask for advice and receive ORS packets.

For the BCSP, an irregular supply of ORS and Zinc across the district, combined with the lack of caregiver's knowledge of the treatment is likely to have had a confounding effect on uptake of the service.

### 6.3.2 Exclusive breastfeeding

Exclusive breastfeeding for children under the age of six months stands as a condition in the hard conditions block. Women who had at least one child between the age of six months and one year were asked if they had exclusively breastfed their child for the first six months. This indicator was calculated as per WHO guidelines<sup>38</sup>, and was calculated based on the woman's recall of the diet of the child the previous day. The differences-in-differences result for this indicator are presented in Table 6.8.

**Table 6.8 DID: Exclusive breastfeeding for children under 6 months of age**

DID : Exclusive breastfeeding under 6 months (For all respondents who had at least one child between 6 months and 1 year of age)		
Outcome/ Indicator	Hard conditions vs. Soft conditions	Soft conditions vs. Only technology
	Dif 1 - Dif 2	Dif 2 - Dif 3
Exclusive breastfeeding under 6 months (for children 6 months and above)	0.0460	-0.0423
	(0.0658)	(0.0672)

**Source:** BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015).  
**Notes:** (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) The figures for the above indicators should be multiplied by 100 to be interpreted as percentage points. For instance, 0.25 should be interpreted as 25 percentage points.

<sup>38</sup>World Health Organization. (2010)

The difference-in-differences impact estimates for the percent of women practicing exclusive breastfeeding for children under six months of age do not contain significant results for either treatment block.

When asked about problems faced by women during breastfeeding, they mentioned several challenges that could possibly affect this behaviour. To begin with, qualitative interviews discovered misconceptions amongst health workers themselves. Health workers said that if a mother wasn't healthy, she was unable to produce enough milk. So, if her child continued to be hungry, then she had no option but to feed the child cows or buffalo's milk. Another was of the opinion that a Caesarean section surgery was the reason why a mother could not feed her baby. She felt that the mother didn't have sufficient milk due to the medicines and injections given to her at the time of the surgery, and thus had to give her child cow or buffalo's milk. Religious beliefs, coupled with financial constraints also hindered the practice of breastfeeding.

One health worker said that women couldn't take their child to the fields where they worked, as a result, the child had to be fed milk other than breast milk.

*Interviewer: Didi, we also want to know [about the] problems a mother can face [when] taking care of her child. Not in centre but in their homes.*

*Respondent: Problems are there. Mothers cannot take their child to farms which are very far, so they give cow's milk to their babies. We suggest that 'Don't give them cow's milk. We know that you work in farms, but you can take your milk out and store it as it will not [spoil for] 2-3 hours. Till 6 months give your milk only don't give anything else. Those who listen they do it and those who don't listen they give cow's milk as they think that their milk will not be fine.*

(AWW, 38 years, soft conditions block)

A health worker said that some women in her village had consulted a *pandit* (priest) for the right time to breast feed their child. As a result, these women missed out on breast feeding within the hour their child was born.

When female respondents and their mothers-in-law were asked how long a child should be exclusively breast fed, the universal answer received was six months. Respondents were also aware of the benefits of breastfeeding a child. However, when further probed with respect to their own child/grandchild, the respondent often admitted to have fed their child something other than breast milk within the first six months. This was the case especially during the summer months, when the weather was very hot and dry. Respondents said they ended up feeding their (less than six month old) child a few spoons of water and that family members, health workers and doctors advised them to do so.

While the knowledge of the benefits of breastfeeding is prevalent, cultural attitudes and practice around feeding the child are resistant to change. In order to meet conditions, the programme would have to induce change by reinforcing messages about breastfeeding practices amongst health workers as well as respondents, especially during summer months and during the initial stages of breastfeeding. Without this, it is unlikely that the condition will have much impact.

## 6.4 Awareness and uptake of conditions

In order to achieve improvements in uptake of services through the compliance of conditions under the BCSP, it is essential that AWWs, and through them, beneficiaries, are well informed about which tasks are conditions under the BCSP.

Table 6.9 lists down rates of awareness of each BCSP condition among beneficiaries, and AWWs in each treatment block, respectively. This table shows that rates of awareness were low, even amongst AWWs. Knowledge of the conditions related to VHSND attendance and weight gain monitoring was high, but recall of all of the other conditions was below 50 per cent (amongst the AWWs). Amongst beneficiaries, the ability to recall individual conditions was even lower.

**Table 6.9 At midline: Knowledge of individual conditions among AWWs and beneficiaries**

**At midline : Knowledge of conditions among beneficiaries with at least one child under 1 year of age**

Outcome/ Indicator	Hard conditions		Soft conditions	
	Beneficiaries <sup>(4)</sup>	AWW <sup>(4)</sup>	Beneficiaries	AWW
Per cent of beneficiary/AWW able to recall the following conditions <sup>(3)</sup> :				
<i>Attend VHSND every month</i>	42.7%	89.0%	49.5%	89.1%
	[0.040]	[0.047]	[0.030]	[0.043]
	484	49	442	52
<i>Weight gain monitoring of woman during pregnancy</i>	24.9%***	70.7%	38.4%	82.2%
	[0.026]	[0.066]	[0.034]	[0.052]
	484	49	442	52
<i>Growth monitoring of children</i>	18%**	45.1%	25.4%	46.6%
	[0.029]	[0.073]	[0.023]	[0.072]
	484	49	442	52
<i>Treatment of child with ORS when he/she contracts diarrhoea</i>	7.2%*	49.7%	11.9%	49.2%
	[0.015]	[0.073]	[0.023]	[0.072]
	484	49	442	52
<i>Exclusive breastfeeding for the first 6 months of the child's life</i>	6.5%	24.6%*		10.7%
	[0.012]	[0.063]		[0.042]
	484	49		52
<i>Receiving at least 30 IFA tablets during pregnancy</i>	5.6%	46.3%		35.4%
	[0.016]	[0.073]		[0.070]
	484	49		52
<i>Registration of child at birth</i>	4.9%	38.7%		33.0%
	[0.010]	[0.072]		[0.068]
	484	49		52
<i>Weighing of child at birth</i>	13.5%	20.1%		23.3%
	[0.023]	[0.058]		[0.061]
	484	49		52
<i>Measles vaccination for the child when he/she is between 9-12 months of age</i>	7.7%	42.2%*		24.3%
	[0.017]	[0.072]		[0.063]
	484	49		52
Average number of BCSP conditions that the beneficiaries/AWW are able to recall	0.74	4.262***	0.67	2.7
	[0.085]	[0.257]	[0.068]	[0.147]
	859	49	830	52

**Source:** BCSP Midline Survey (Aug - Nov 2015).

**Notes:** (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) Certain conditions were present only in the 'hard' condition blocks, and therefore, no figures have been displayed for these conditions in the 'soft' conditions column. (4) Asterisks indicate significant differences in estimates, when compared to the corresponding estimate in the soft conditions block.

As a general trend, higher rates of awareness are also associated with a larger impact for each condition. Conversely, lower rates of awareness, especially among beneficiaries, are associated with smaller impacts (except in the case of the condition related to IFA tablets in the hard conditions block). Thus, a lack of awareness about the conditions under the BCSP may be part of the reason why the CCT had no impact on uptake of nutrition sensitive behaviours like exclusive breastfeeding and correct treatment of diarrhoea.

Low awareness is likely to impact accountability mechanisms as well. If a lower number of beneficiaries are aware of the conditions, they are less likely to be able to hold the service provider accountable. This is further explored in Chapter 8.

## 6.5 Equity

Table 6.10 below shows how the impact estimates for the conditions vary for different groups. For example, the increase in VHSND attendance for SCs is 10 percentage points, whereas for non-SCs it was 45 percentage points, meaning that the impact for SCs was only 22 per cent of that for non-SCs, a ratio of 0.22 in the table. Therefore, in the table, a score of greater than 1 would mean that the impact is higher for SCs than non-SCs. The second column shows the relative impact for the poorest two quintiles compared to the richest two quintiles, and the third for girls compared to boys. For services related to soft conditions, ratios of impact estimates are calculated using difference-in-differences impact estimates that compare the soft conditions block to the only technology block. For services related to hard conditions, the same ratios are calculated using the difference-in-differences impact estimates that compare the hard conditions block to the soft conditions block. (Annexe G.3)

**Table 6.10 Relative impact of BCSP by socio-economic status**

Relative impact of BCSP by socio-economic status			
Condition	Relative impact - SC: non SC	Relative impact - poorest: richest quintiles	Relative impact - girls: boys
Attendance at VHSND (pregnancy)	0.22	0.66	1.31
Attendance at VHSND (child)	0.66	0.94	1.06
Weight gain monitoring during pregnancy	2.93	1.81	0.87
Child weight monitoring	0.84	0.89	1.22
Receipt of IFA supplementation during pregnancy	1.06	0.66	2.25
Birth Registration	4.75	-11.55 <sup>(1)</sup>	2.95

**Source:** BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015).  
**Notes:** (1) Birth registration increased (significantly) by 27% for the poorest 40%, and decreased (not significantly) by 2% for the richest 40%.

The table also shows that the conditions related to VHSND attendance had a much smaller effect on SCs and poorer households than non-SCs and richer households, as did the condition related to child growth monitoring. This is partially explained by the fact that enrolment rates are higher for non-

SCs and richer households, even for those who were not previously accessing services from the AWC.

Conversely, the conditions related to weight gain monitoring and birth registration had more of an impact for the poorest and SCs.

In general, the conditions have had a bigger effect for female children than male children. Reasons for this will be further explored at the time of the endline survey.

It is likely that the same reasons that prevented socially excluded groups from enrolling for BCSP also hindered them from meeting conditions once enrolled. Poorer women were more likely to have to miss VHSNDs for work – either seasonal in the ‘bhatta’ (brick kilns) or daily in fields or in homes.

Qualitative inquiry found that in some villages, the AWW operated AWCs out of her house. In one case, the VHSND was held in the village’s *devisthaan* or temple. Given the caste difference between the AWW and others in the village, this could be an inhibiting factor for some of the beneficiaries.

In nuclear families, women did not step out of the house if there was no one to look after their children. A few AWWs and ASHAs said that it was usually the newly married women who were reluctant to attend the VHSND. In such cases they had to convince newlyweds to come to the AWC.

Below are interviews of the health worker and a woman who spoke of the difference in caste and how it prevented access to the AWC in the same village.

*Interviewer: Is there any other woman who doesn’t come to Anganwadi?*

*Respondent: No. this thing happens only in Rajput tola. Otherwise, the rest of them come. Their guardians tell them that they should not go to the AWC. They tell me to come home and give [services]. Then I tell them I have been told to inform and I do; whether you take [the service] or not, it is up to you. I don’t have any problem with that. I do my work. I tell them and come back.*

(ASHA, 30 years, only technology block)

*Interviewer: So during these 9 months, you did not ever go there for getting ration? You went there only once?*

*Respondent: Yes, I did not go there because of embarrassment.*

*Interviewer: What embarrassment?*

*Respondent: Because the Anganwadi centre is in the Rajput colony and I don’t feel comfortable going there. And that’s why even today I did not go. I go there very rarely. I feel very shy.*

*Interviewer: Why do you feel shy?*

*Respondent: Because they will see me and gossip about me. And then there is no place where I can leave my child for a while. Once I went out leaving my son at home and accidentally he died. So now I never leave my children like that.*

(Non-BCSP respondent, 21 years, only technology block)

## **6.6 Bonus conditions**

### **6.6.1 Birth spacing**

The birth spacing bonus is part of BCSP in the soft conditions block. At the time of the midline survey, the programme had not yet run for two years and hence did not have any eligible beneficiaries for this bonus. The impact estimates will be calculable at the end line.

## 6.6.2 Child not being undernourished

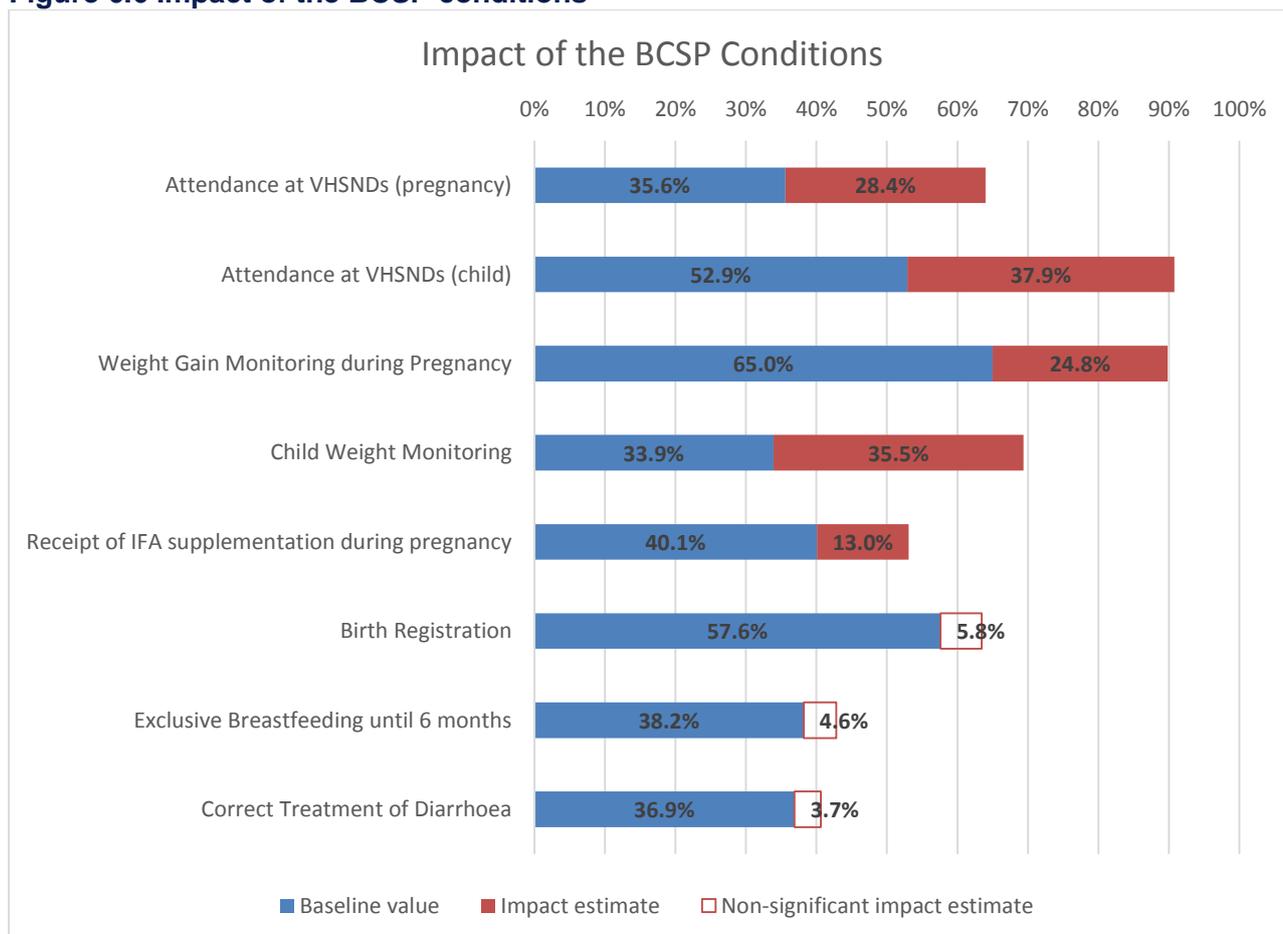
An outcome bonus in form of a **child growth bonus** (in place of the **birth spacing bonus**) is being tried in the hard conditions block and will work like the birth spacing bonus in terms of timelines and monetary incentive values, but will be based on the child weight being normal i.e. child not being underweight at the age of 24 months. The rationale behind introducing an outcome condition in the programme design is as follows: A CCT programme cannot influence all the outputs required to cause substantial impact on the final programme outcomes, measured in this case through child nutrition outcomes. This is because (a) monitoring all advisable behavioural conditions is next to impossible, and (b) the beneficiaries do not have any control on the supply-side factors such as services at the AWC or those provided by the ANM. It is hence desirable to test an outcome condition that puts the burden of adopting those outputs that may not necessarily be part of the CCT conditions on the mothers and family of children instead of leaving it all for the AWW and other health and nutrition service providers.

Again, as the programme had not yet completed two years, there were no beneficiaries at the midline who had become eligible for an analysis of impact of BCSP on this. Our understanding, however, is that this will be the first time an outcome level condition has been included in a conditional cash transfer in this way. The end line survey will provide estimates of if and how the bonus condition led to any effects.

## 6.7 Concluding remarks

The programme had a large and positive effect on uptake of services related to attendance at the VHSND and weight monitoring for both women and children in both treatment blocks. In Figure 6.6 below, for the indicators related to service uptake in the soft conditions block (attendance at VHSNDs, weight gain monitoring during pregnancy, child weight monitoring, correct treatment of diarrhoea) the levels of the indicator at the baseline stage in the soft conditions block are presented, along with the impact estimate of the BCSP cash transfer in this block compared to the only technology block.

For the remaining indicators (receipt of IFA tablets, birth registration, exclusive breastfeeding), the levels of the indicator at the baseline stage in the hard conditions block, along with the impact estimate of the BCSP cash transfer in this block compared to the soft conditions block, are presented.

**Figure 6.6 Impact of the BCSP conditions**

**Source:** BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015). For more information, please refer to Annexe G.1.1 and Annexe G.1.2.

Adding in the hard condition of consuming at least 30 IFA tablets during pregnancy significantly improved its uptake in the hard conditions block, compared to the soft conditions block (Figure 6.6). However, no other service related to the hard conditions displayed any improvement in uptake as a result of adding in hard conditions in the hard conditions block, when compared the soft conditions block.

The analysis showed that beneficiaries were generally able to meet the conditions even if the supply was not available at the AWC, through sourcing from the private sector – as was seen in the case of receipt of IFA tablets, and administering ORS to children suffering from diarrhoea.

Impact estimates differed significantly for different sub-groups, with many of the conditions having a larger impact for households belonging to the non-SCs, and richer households. This could stem from the relatively low enrolment rates among SC and poorer households, and calls for the BCSP implementation team to consider and address these problems of exclusion.

In order to achieve improvements in uptake of services through the compliance of conditions under the BCSP, it is essential that AWWs, and through them, beneficiaries, are well informed about which tasks are conditions under the BCSP. However, levels of awareness were found to be quite low among both AWWs and the beneficiaries. This is important to note, as it is difficult to expect compliance if beneficiaries are unable to keep track of the various conditions. It also points towards the complexity of the programme.

There was no conclusive evidence that the BCSP helped improve nutrition-related behaviour, via the two conditions designed for this purpose. Correct treatment of diarrhoea with ORS and Zinc and

exclusive breastfeeding for children under the age of six months showed no significant improvement in either uptake, or awareness. There could be at least three reasons for this. First, these behaviours are founded on deep-seated cultural attitudes towards nutrition, reinforced by often conflicting messages by front line workers and are harder to influence by a cash transfer, as compared to other behaviours. Second, these conditions are difficult to verify, as they are self-reported by beneficiaries. Third, uptake may be low due to poor awareness levels; only a small proportion of beneficiaries recalled these conditions. For the BCSP, it will be challenging to introduce conditions that cannot be monitored directly and face strong cultural resistance. Targeted awareness campaigns also have a crucial role to play. Unless there are significant efforts in attempting to positively influence attitudes both of the primary caregiver and her family, these conditions are unlikely to impact health outcomes.

## 7 Empowerment effect

### 7.1 Introduction

Besides the direct effects of providing women with a cash transfer which were outlined in Chapter 5, the BCSP also aims to improve the lives of women indirectly by increasing their degree of autonomy within the household. The woman is the direct recipient of the cash, and it is hoped that this translates into increased decision making power. This may positively impact intra-household resource allocation, and eventually lead to improved maternal and child nutrition outcomes<sup>39</sup>. The programme is also designed to increase a woman's mobility within the village and society. It does this by requiring women to access the AWC and operate their own bank accounts in order to be eligible to participate in the programme.

In this chapter, the qualitative analysis of the effect of the BCSP on empowerment and autonomy is presented. Section 7.2 discusses the effect of the BCSP cash transfer on women's decision making power within the household whereas Section 7.3 talks about the impact the cash transfer has had on their physical mobility and possession of the cash.

### 7.2 Women's decision making power

The BCSP has facilitated the opening of a large number of bank accounts for women; providing them with access to banking services, often for the first time. The programme is designed to enable women to control the money received upon meeting conditions by making it mandatory for her to withdraw the amount herself. It also encourages regular withdrawals, thus enabling frequent access to banking services, and greater autonomy to make decisions over smaller sums of money. The extent to which women have successfully accessed this is detailed in Section 4.4.

However, physical ownership or access to money does not always mean that a woman can decide what to spend her money on. The qualitative study found that women often did not have the autonomy to make decisions about expenditure and childcare without consulting their family. In interviews with women and their mothers-in-law, they spoke of the role that 'the guardian' or the oldest male (or female, in his absence) member of the household often played in protecting or caring for the woman, and making decisions on her behalf.

For the BCSP, this would mean that in order to access the programme and health services, a woman would need the consent of her guardian. In joint families, the guardian also assumed responsibility of deciding what to do with the household's earnings and in the event that a family member was ill. In nuclear families, the decision maker often varied depending on the type of decisions to be made. With decisions about smaller sums of money being made by the woman – sometimes with the permission of her husband, and decisions about bigger investments made by the man.

Midline quantitative survey results showed that when asked about decisions around spending their own earnings, 14 per cent of the women in the quantitative sample said that they primarily decided what to do, 30 per cent said that it was primarily their husbands who decided and 43 per cent said the decision was a joint one (between husband and wife).

In the qualitative sample, there were women whose husbands had migrated out of the village for work. In such family structures, women themselves were decision makers:

*Interviewer: So who decides to withdraw money from the bank? You or your husband?*

<sup>39</sup> de Groot, R., Palermo, T., Handa, S., Ragno, L.P. and Peterman, A. (2015)

*Respondent: I decide it on my own.*

*Interviewer: Why so?*

*Respondent: Because I stay alone. So I am responsible for everything. I have young children to look after. My husband stays out, he sends money he earns from labour, and I keep it. What else?*

*Interviewer: So when you withdraw money, do you keep it with you or give it to somebody else to keep?*

*Respondent: I keep it with myself, why would I give it to anybody else?*

(BCSP beneficiary, 30 years, hard conditions block)

Interviews also pointed to the fact that a programme beneficiary felt that she would like to decide how to spend the money she received, since the government had given them the cash incentive to spend on themselves and/or their child.

Qualitative interviews questioned both the beneficiary and her mother-in-law on who should be spending the money. Answers were corroborated to see if their opinions varied. In a majority of interviews, both women and their mothers-in-law said that the recipient of the transfer should spend the money. Interviews of a programme beneficiary and her mother-in-law living in the same household are paired below as an example. This was in a soft conditions block.

*Interviewer: The money that you get, do you take the decision on your own to spend that money or you share that money as well?*

*Respondent: No nobody takes that. I use it for my living.*

*Interviewer: Do you take the decision on your own? Who takes the decision for the 250 rupees that you get?*

*Respondent: I take the decision to spend that money. If I need something, I withdraw and buy it else I leave it in the bank. As it is I don't go to the market. But when I need something, I withdraw and buy for myself.*

(BCSP beneficiary, 26 years, soft conditions block)

*Interviewer: But does she keep the money with herself or she gives it to anyone?*

*Respondent: She has small children and so she uses this money on their food and nutrition.*

*Interviewer: But she buys these things on her own or she gives it to someone?*

*Respondent: No, she does not give it to anyone.*

*Interviewer: So what does she mostly do with this money?*

*Respondent: She uses it on her three daughters.*

(BCSP beneficiary's mother-in-law, 72 years, soft conditions block)

However, the qualitative sample also had a few examples that did not conform with the trend of the beneficiary controlling decisions related to the cash transfer. For instance, according to one newly-married respondent who was part of a joint family, staying with her father-in-law, mother-in-law and husband, the decision to withdraw the BCSP payment from the bank was a joint decision made by the family. One mother-in-law acknowledged that her daughter-in-law might like to give her the money as the former was seen as a parent and the daughter-in-law's guardian. Another mother-in-law was of the opinion that it should be up to the guardian, the mother-in-law, the father-in-law or the husband what the woman does with the BCSP payment.

A 23 year old respondent from the soft conditions block who had been married for one year explained why women usually wanted to give the cash transfer to their guardians:

*Interviewer: Who will take this decision about money?*

*Respondent: The people who received it will only take the decision about that money. Mostly women give it to their guardian.*

*Interviewer: Why do women want to give it to their guardian?*

*Respondent: Because they [the guardians] are fulfilling all the needs and if we got some money from government and we keep it with ourselves, it will not look good.*

*Interviewer: Why?*

*Respondent: Our guardian will utilise the money better. And if I will fulfil my demands from that money then my guardian will think that I don't have any concern for them.*

(BCSP beneficiary, 23 years, soft conditions block)

While the family's buy-in to the programme and its objectives would enable the woman to better make decisions about the cash received, it is not apparent from interviews that the receipt of money has empowered her to influence decision making in the household. Since the recipient was, in most cases, financially dependent on her family for daily expenses, she might feel compelled to consult other members about using the BCSP money or contribute to the larger kitty from which the family made expenses. Irrespective of the recipient's view on spending the cash herself or letting her family decide how to spend the money, the inquiry probed for and found no instance of increased violence or tension in the household due to the cash transfer.

### **7.3 Impact on physical mobility and possession of cash transfer**

The cash transfer can have a positive impact on the beneficiary's physical mobility in several ways. Under the programme, women need to go to the bank to open their account (a condition for enrolment under the programme is that the applicant should have her own bank account) and attend the VHSND and access services at this monthly meeting. Additionally, the programme encourages women to withdraw the cash transfer on a monthly basis. Having got the money, it is assumed that women would have to go to the market to make purchases with the payment.

However, it was found that decisions on when to withdraw the cash transfer were not always entirely up to the 'owner' of the cash. Even decisions on when a recipient would like to withdraw her money would depend on the primary decision maker of the family – either her husband or mother-in-law.

*Interviewer: Who [decides] when a lady should withdraw the money?*

*Respondent: The husband [decides]. Because it is the husband's burden to look after the children.*

(AWW, 44 years, soft conditions block)

*Interviewer: You said that you got Rs 250?*

*Respondent: I went to bank to check the account. Then they said that Rs 250 has come.*

*Interviewer: Did anybody go with you?*

*Respondent: My husband went.*

*Interviewer: He went along with you. Why did he go along with you?*

*Respondent: I am a daughter-in-law and I can't go anywhere alone. I need to take somebody along with me. My husband was at home so I went with him.*

(BCSP beneficiary, 25 years, soft conditions block)

With regard to mobility, women said that when they needed to purchase small household items for daily use from the market, such as milk or vegetables, soap or medicines, they depended on their family members to get such items for them. This was the case for many joint families in which the father-in-law was the guardian. Other women went with their husbands or mothers-in-law to the market. Women belonging to nuclear families said that since they were not able to leave their small children alone at home, their husbands bought things for them from the market.

Difference-in-differences impact estimates found some indicative evidence of increased mobility of women in treatment blocks. Indicators that measure the percent of women who were allowed to go

to the market, or to the local health facility alone showed directionally positive signs on coefficients for the soft conditions block. However, no significant impact was detected for either indicator. Given that our study focused on young mothers, less than 50 per cent of women in treatment blocks felt that they could venture out of their household alone, or accompanied, to visit a nearby market or health facility. This figure did not change significantly over the baseline and midline studies. (Annexe H.1.2)

**Table 7.1 DID: Indicators related to women's mobility**

DID : Indicators related to women's mobility		
Outcome/ Indicator	Hard conditions vs. Soft conditions	Soft conditions vs. Only technology
	Dif 1 - Dif 2	Dif 2 - Dif 3
Percent of women who are allowed to go to the market, alone	-0.000525	0.0479
	(0.0498)	(0.0438)
Percent of women who are allowed to go to the local health facility, alone	0.00440	0.0625
	(0.0514)	(0.0439)

**Source:** BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015).  
**Notes:** (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) The figures for the above indicators should be multiplied by 100 to be interpreted as percentage points. For instance, 0.25 should be interpreted as 25 percentage points.

According to the qualitative data, daughters-in-law and their mothers-in-law said that programme beneficiaries did keep (or should keep, in instances when the beneficiary had not received the cash transfer) the money with themselves and that they bought, or should buy, nutritious food for their child with the money.

While assessing the impact of the cash transfer on women's empowerment, it can be said that the maximum effect was on the physical possession of the cash transfer by the programme beneficiary.

Additionally, a small number of women expressed a sense of autonomy after receiving the payment.

*Respondent: In that way there is a difference. Because this is my money and I can use it in any way.*

(BCSP beneficiary, 22 years, soft conditions block)

*Interviewer: Does receiving these 250 rupees bring any changes in your daily routine? Were you able to afford all these things which you are doing presently? So has any such change come to your day to day life?*

*Respondent: Now I am able to afford everything regarding food and nutrition because I am receiving these 250 rupees. While I had to ask to my family members earlier for these things.*

(BCSP beneficiary, 22 years, hard conditions block)

However, it is important to note that customs that impinge on women's autonomy are deeply entrenched into the structure of Indian society, and it is unreasonable to expect positive impact in a year's time.

## 7.4 Concluding remarks

Both quantitative and qualitative data pointed towards women's lack of autonomy in the household as well as in the community. This was irrespective of whether it was control over financial resources or their physical mobility. As discussed in Section 6.2.1, the BCSP resulted in increased VHSND attendance. Thus tying attendance to cash transfers encouraged programme beneficiaries, and her family, to increase her presence at the VHSND. However, this seemed to have had little impact on overall social mobility and agency of the woman. That said, the BCSP cash transfer seemed to have made a small impact on autonomy by encouraging beneficiaries to go to the bank every month in order to withdraw their payment. The transfer also resulted in the physical possession of the cash by the beneficiary which seemed to increase her control and decision making over this small sum of money.

## 8 Social accountability effect

### 8.1 Introduction

BCSP aims to support, and add value to the services provided under the Integrated Child Development Services (ICDS) Scheme. It aims to have an effect on the quality and coverage of services through multiple ways, both directly, through ensuring the availability of weighing scales, training and incentivising AWWs and provision of mobile phone based performance tools, and indirectly through increasing the demand for timely and quality services within each village. As beneficiaries become aware of the services available at the AWC, and are incentivised to visit the VHSND and receive services there, they will be able to hold the service provider accountable if services are not available. This model of bottom-up accountability requires both the service provider and the beneficiaries to be aware of the conditions of the programme.

This chapter does not discuss the direct causal links of bottom-up accountability chains. Instead, against the backdrop of Chapter 6 that discusses beneficiaries' awareness of conditions, this chapter presents the change in availability (from the baseline) of services, equipment and stock needed to fulfil BCSP conditions. The structure of the chapter is as follows. The frequency of VHSNDs organised by AWWs and the attendance of ANMs and ASHAs across the four blocks is analysed in Section 8.2. The availability of functional weighing machines and stocks of ORS and IFA are considered in Section 8.3 as they are prerequisites for certain conditions on which BCSP payments are based. Qualitative data provided further insights into the problems faced by the AWWs and ASHAs that could explain provision of VHSND services.

### 8.2 VHSND provision

#### 8.2.1 Conducting VHSNDs

Conducting VHSNDs is the fundamental service that AWWs are expected to provide from the perspective of conditionalities of BCSP. Table 8.1 shows that the BCSP had no significant impact on the VHSNDs being conducted once a month in the treatment blocks any more than in the control blocks. The per cent of AWWs reporting that they organised VHSND once a month was 93.2 per cent as per the midline survey over all four blocks, which is only marginally more than the baseline figure and not statistically different (Annexe I.1.3). This suggests that VHSNDs were organised frequently by AWWs in all blocks irrespective of the BCSP.

**Table 8.1 DID: AWC services - Organisation of VHSND by AWWs**

DID : AWC services - VHSND provision by AWWs		
Outcome/ Indicator	Hard conditions vs. Soft conditions	Soft conditions vs. Only technology
	Dif 1 - Dif 2	Dif 2 - Dif 3
<b>Frequency of conducting VHSND</b>		
<i>Once a month</i>	0.0551 (0.0667)	-0.0178 (0.0500)

Source: BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015).

Notes: (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) The figures for the above indicators should be multiplied by 100 to be interpreted as percentage points. For instance, 0.25 should be interpreted as 25 percentage points.

## 8.2.2 Presence of ANMs and ASHAs at VHSNDs

The VHSND is a platform for convergence of the ICDS and health services at the village level. It is also the vehicle for accessing services on which the BCSP payments are conditional. For the VHSND to work efficiently, the presence of ANMs, AWWs and ASHAs is required. While data on organisation of VHSNDs by AWWs presented in the previous section is also a proxy for their attendance, quantitative results in this section present the attendance figures of ASHAs and ANMs as a key proxy for improved service delivery.

Table 8.2 below shows that the BCSP positively impacted an ANM's attendance at the AWCs in the soft conditions block vis-à-vis the only technology block; AWWs reporting that the ANM was always present during the VHSND was up by 11.5 percentage points in the former compared to the only technology block across time at the 90 per cent confidence level. The attendance of the ASHA also increased but not significantly. This is indicative that BCSP may be strengthening service delivery – as several conditions are contingent on certain services being available, beneficiaries may be exerting pressure on the supply-side for service provision.

**Table 8.2 DID: AWC services – presence of ANM and ASHA at VHSNDs**

DID : AWC services – presence of ANM and ASHA at VHSNDs <sup>40</sup>		
Outcome/ Indicator	Hard conditions vs. Soft conditions	Soft conditions vs. Only technology
	Dif 1 - Dif 2	Dif 2 - Dif 3
<b>ANM present during VHSND</b>		
<i>ANM always attends VHSND (2-3 times in the last 3 months)</i>	0.0928	0.115*
	(0.0766)	(0.0637)
<b>ASHA present during VHSND</b>		
<i>ASHA always attends VHSND (2-3 times in the last 3 months)</i>	0.0525	0.0783
	(0.0884)	(0.0709)

Source: BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015).  
Notes: (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* =95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) The figures for the above indicators should be multiplied by 100 to be interpreted as percentage points. For instance, 0.25 should be interpreted as 25 percentage points.

## 8.2.3 Motivation to provide services

To further understand the reasons behind service delivery (or the lack thereof), motivation of the service providers was studied. This section presents results of qualitative interviews about the motivation levels of ASHAs and AWWs to deliver services. Delay in payments, the lack of support and coordination between the health workers, all bear impact on service delivery. The qualitative sample reported health workers being overworked and underpaid across treatment and control blocks. As last mile service providers, ASHAs and AWWs are part of multiple government programmes and pilots. A typical AWW has to provide services in education, health, distribute rations, talk about sanitation, conduct a monthly VHSND and maintain records. AWWs reported an increase in responsibilities since the beginning of the programme. As one respondent mentioned,

<sup>40</sup>At the baseline, the relevant questions posed to the AWW was how frequently the ANM and the ASHA attended the VHSND and the responses were never, sometimes and always. These questions were changed at the midline to add a definite recall period of past 3 months. The questions are not directly comparable but a subjective interpretation of the midline responses has been done to look at changes in ANM and ASHA attendance at VHSNDs, if any. If the response was 2 or 3 times in the past 3 months, then it has been recoded as always. This may be a lenient interpretation but the recall period is short enough to warrant this leniency in order to not underestimate the attendance rates.

AWWs also had to work with monitoring and evaluation groups, talking about their responsibilities under various programmes.

*Interviewer: Do you feel that there have been changes in your work in past few years?*

*Respondent: [My] workload is increasing gradually.*

*Interviewer: How?*

*Respondent: You also keep coming and we have to do survey for 3 years children, then for 6 years children, for adolescent girls. We have to submit report every month. Recently mobile work has also been added and we have to do this also.*

(AWW, 22 years, soft conditions block)

As the frontline health worker, the ASHA was responsible for taking pregnant women to hospitals for delivery, distributing family planning products and helping with health queries. The ASHA worked with the AWW to call women to the VHSND, and told women in the village about the BCSP.

The ASHA, who received incentive payments as opposed to a salary, spoke of large delays in receiving this money. This could reduce their motivation to provide effective services.

*Respondent: I take [women] for delivery and I don't have salary. I don't get anything as a salary. You might have information. Does ASHA have any salary? I don't have any salary. I just run around and that is my money. ANM comes to give the injection and she gets 75 rupees. We submit the report of four or five months and then take the signature of the facilitator and manager, and then we get the money. If we would get [Rs] 2000 or 4000 as salary, then also it would be good.*

(ASHA, 36 years, hard conditions block)

Coordination between AWWs and ASHAs to deliver services was also important for service delivery. In villages where the ASHA and AWW had a better working relationship, there appeared to be greater co-ordination on service delivery. Whereas in some villages, the ASHA and AWW had a weak relationship leading to poorer service delivery.

For example, in one of the respondent villages, the AWC reported a broken weighing machine. Since the ASHA and AWW both receive weighing machines, they could potentially have shared the ASHA's machine. However, due to the fraught relations between the ASHA and AWW, the AWW was borrowing the weighing machine from a neighbouring village, thus, increasing the effort required to provide services.

The high workload of the health workers combined with their low payments seems to have led to dissatisfaction amongst them. This operating environment could have an impact on the motivation of these workers to ensure availability and provision of health services. A conditional cash transfer that relies on them to provide services must reflect on this aspect of service provision. Under the BCSP, only the AWW was incentivised; an alternative model including ASHA incentives may be worth consideration.

### **8.3 Stock and equipment availability**

At the core of any conditional cash transfer is the assumption that beneficiaries, if they choose to, can access the conditions necessary to complete the programme. Of the key outcomes and indicators identified under the programme, many require improved uptake of health services and

supply side improvements<sup>41</sup>. This section explores the supply side stock and equipment availability, and changes, if any.

### 8.3.1 Child weighing machine

The availability of functional child weighing machines at the midline remained almost the same as in the baseline in the four blocks, overall at 75.5 per cent at the time of the survey. There was a fall in the hard conditions block from 92 per cent to 76.5 per cent at the midline at the 95 per cent confidence level but the availability increased from 73 per cent to 81.5 per cent in the soft conditions block (Annexe I.1.2). The significant decline in AWWs stocking child weighing machines in the hard conditions block could have curtailed the ability of beneficiaries to meet the child growth monitoring condition in this block. It is important to note that there was no association detected between uptake of the growth monitoring service and the availability of the functional weighing machines as was discussed in Chapter 6. It is also possible that the machines reported to be non-functional had become so very close to the date of the survey, and may have worked in the preceding months or weeks.

The difference-in-differences impact estimates in Table 8.3 below show a negative impact on the availability of functional child weighing machines in the hard conditions block compared to the soft conditions block at the 95 per cent confidence level but there was an increase in the soft conditions block compared to the only technology block. The impact of BCSP, therefore, seems inconclusive in this regard.

**Table 8.3 DID: AWC services – availability of child weighing machine and ORS**

DID : AWC services – availability of child weighing machine and ORS		
Outcome/ Indicator	Hard conditions vs. Soft conditions	Soft conditions vs. Only technology
	Dif 1 - Dif 2	Dif 2 - Dif 3
<b>Stock &amp; Equipment Availability</b>		
<b>Child weighing machine</b>	-0.242**	0.216*
	(0.0982)	(0.110)
<b>ORS</b>	-0.105	0.161
	(0.120)	(0.119)

Source: BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015).  
 Notes: (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) The figures for the above indicators should be multiplied by 100 to be interpreted as percentage points. For instance, 0.25 should be interpreted as 25 percentage points.

### 8.3.2 Stock of ORS

BCSP had no significant impact on the availability of ORS stock in the treatment blocks (Table 8.3). Whilst there is a directionally positive increase in ORS stocks in the soft conditions block, it is not significant, and is not sustained in the hard conditions block. In terms of absolute levels, however, the percentage of AWCs that reported having ORS stocks was higher in the treatment blocks than in the control blocks (Annexe I.1.3).

<sup>41</sup> Section 9.2 of the BCSP Design Document.

### 8.3.3 Adult weighing machine

The availability of functional weighing machines is a key factor to satisfy the programme condition around weight monitoring during pregnancy. The baseline AWW questionnaire did not include a question on the availability of a functional adult weighing machine, so an impact estimate could not be calculated. However, at the midline, the percentage of AWWs who reported having a functional adult weighing machine was 96 per cent in the hard conditions block, 90 per cent in the soft conditions block, 82 per cent in the only technology block and 93 per cent in the pure control block (Annexe I.1.3). This implies that only in a small number of AWCs in the treatment blocks were these machines not available but this could have an adverse impact on the uptake of the related service in these AWCs.

However, as was the case with the BCSP positively impacting growth monitoring of children, weight monitoring during pregnancy is also an indicator that improved significantly in the treatment blocks due to the BCSP (Chapter 6). Regardless of the availability of the weighing machines, the beneficiaries were still meeting the conditions.

### 8.3.4 Stock of IFA tablets

As with the case of the adult weighing machines, it was not possible to calculate an impact estimate for the availability of IFA tablets. While the stock of IFA tablets was low at the midline (14 per cent overall; Annexe I.1.3), this cannot be compared with the baseline as there is no available data on this from the baseline survey. The difference-in-differences impact estimates will be calculated at the endline vis-à-vis the midline survey data.

Within the qualitative sample, several centres reported irregular receipt of IFA tablets. While almost all of them reported receiving IFA tablets during the programme, some had procurement delays and went without receiving these tablets for months.

*Interviewer: Do you have iron tablets?*

*Respondent: No. Not from last six months*

*Interviewer: Have you informed any one?*

*Respondent: Yes when we go to PHC we inform them. They say that it is not available so we don't get iron tablets*

(ASHA, 40 years, hard conditions block)

## 8.4 Demand for services

Qualitative interviews queried respondents' demand for services. Women were asked how the VHSND could be improved. In these cases, beneficiaries often acknowledged the need for services to improve but could not articulate which services. However, they expected to receive more money or rations from the AWC.

*Interviewer: What should be done for the improvement of nutrition day? What else should be done to make vaccination day even better?*

*Respondent: They should fulfil the things which are deficit.*

*Interviewer: What are the things they should fulfil?*

*Respondent: Shortage of money and food exist here.*

*Interviewer: What else is deficit?*

*Respondent: Child need to be taken care of and fed properly. There are many types of deficiency. (BCSP beneficiary, 21 years, soft conditions block)*

Respondents relied on the service provider to inform them about services they were entitled to receive. Some new mothers said that they were not aware of their entitlements. The lack of information about services as well as counselling was evident.

*Interviewer: For how many months should a mother breastfeed her child exclusively?*

*Respondent: This is my first child. If anybody will tell me then only I will get to know. Till now nobody has told me for how long I should feed or not. I don't have much knowledge about all this.*

(BCSP beneficiary, 21 years, soft conditions block)

In cases that required immediate medical attention like diarrhoea, interviews found that if the mother did not receive services or attention from public service delivery points or hospitals, they would turn to private healthcare facilities.

## 8.5 Concluding remarks

For a CCT to be effective, basic health services need to be available and be of reasonable quality. The BCSP aims to strengthen service delivery at the AWC by ensuring that frontline workers such as the AWW, ANM and ASHA are more regularly present at VHSNDs to deliver the mandated services.

In terms of availability of a functional child weighing machine and stock of ORS, the difference-in-differences impact estimates showed that the BCSP has had no significant impact on their availability in the treatment blocks, so the programme and resulting increase in demand was not sufficient to overcome supply side issues. In the case of receipt of IFA tablets and growth monitoring of children, beneficiaries seem to have overcome lack in the supply of public services by substituting with alternative, possibly private sources of service provision.

The BCSP is designed to increase the demand for quality services to be delivered on time through the cash transfer, thereby making the AWW more accountable to beneficiaries. Quantitative data found that higher rates of awareness are also associated with a larger difference-in-differences impact for each condition. Conversely, lower rates of awareness, especially among beneficiaries, are associated with smaller impacts (except in the case of the condition related to IFA tablets in the hard conditions block). Qualitative interviews found that women were unaware of the services they were entitled to receive, and often relied on the provider to inform them of their entitlements. While bottom-up accountability mechanisms have not been explored in detail, the lack of a Community Monitoring Group (CMG), limited information and limited uptake of certain services are used as a proxy to postulate that accountability mechanisms were not strong at the midline.

## 9 Anthropometric and biomedical outcomes

The BCSP ultimately aims to improve the nutritional status of beneficiaries, both children and mothers. To assess nutritional status, the BCSP baseline and midline surveys included an anthropometric module in which all children under two years of age were weighed and their height measured. Mothers were also weighed and their height was measured, and haemoglobin tests were undertaken to measure levels of anaemia.

While the previous sections of the report present the estimates and results for children aged under one year, this has not been undertaken here. This is in keeping with the evaluation design that necessitates that the sample of under-twos be used to measure impact on nutrition outcomes with adequate power. Furthermore, as anthropometric outcomes tend to be much worse for older children (8 months – 24 months), reflecting the cumulative nature of stunting in particular, comparing estimates for children under 12 months is not meaningful. Annexe J.1 presents rates of stunting, underweight and wasting among children at the baseline and midline.

Impact estimates will only be presented at the endline, comparing with the baseline data, and also with older children in the midline sample. Therefore, in this chapter, only the estimates for maternal anthropometry and anaemia are presented.

### 9.1 Anthropometric and biomedical outcomes of women

#### 9.1.1 Anthropometric outcomes of mothers (Body mass index)

Adult nutritional status is determined by the body mass index (BMI), measured as (kg/m<sup>2</sup>). Using the BMI classification from the WHO Global Database on Body Mass Index<sup>42</sup>, it was found that 45.9 per cent of the women were underweight (i.e. the BMI was less than 18.5) at the midline as compared to 49 per cent at the baseline. (Annexe J.2.2) The difference-in-differences estimates presented in Table 9.1 show that the proportion of underweight women fell by eight percentage points in the soft conditions block, compared to the only technology block. This was significant at the 99 per cent level of significance, and can be attributed to the BCSP.

#### 9.1.2 Biomedical outcomes of mothers (Haemoglobin)

As part of the evaluation surveys, blood samples were taken to measure rates of anaemia in the sampled mothers with children under 2 years of age. The cut-off for being diagnosed as anaemic is Hb to be less than 12 g/dL<sup>43</sup>. Overall, the prevalence of anaemia in the mothers in the BCSP midline sample was 73.8 percent (including mild, moderate and severe anaemia) – statistically higher than 70.9 percent at the baseline. The overall rate of anaemia prevalence is much higher than the NFHS 2015-16 figure of 60.5 percent of ever-married women (15-49 years of age) in rural Bihar.

The difference-in-differences impact estimates in the case of anaemia prevalence are insignificant for each pair of blocks but directionally encouraging (Table 9.1).

<sup>42</sup>World Health Organization. (2004)

<sup>43</sup>World Health Organization. (2011)

**Table 9.1 DID: BMI class and anaemia prevalence among mothers of children 0-24 months of age**

<b>DID: BMI class and anaemia prevalence among mothers of children 0-24 months of age</b>		
<b>Outcome/ Indicator</b>	<b>Hard conditions vs. Soft conditions</b>	<b>Soft conditions vs. Only technology</b>
	<b>Dif 1 - Dif 2</b>	<b>Dif 2 - Dif 3</b>
<b>BMI class</b>		
Underweight <sup>3</sup>	0.0183	-0.0801***
	(0.0233)	(0.0288)
<b>Anaemia Status</b>		
Anaemic <sup>4</sup>	0.00413	-0.0269
	(0.0271)	(0.0270)

**Source:** BCSP Baseline Survey (Jul-Sep 2013) and BCSP Midline Survey (Aug - Oct 2015).

**Notes:** (1) Asterisks (\*) indicate that an estimate is significantly different to the relevant comparator, as explained in Box #: \*\*\* = 99%; \*\* = 95%; \* = 90%. (2) Appropriate Stata 14 commands were used to account for survey design. (3) BMI less than 18.5 (4) Haemoglobin level at sea level less than 120 g/l for non-pregnant women of 15 years and above, and less than 110 g/l for pregnant women. (5) The figures for the above indicators should be multiplied by 100 to be interpreted as percentage points. For instance, 0.25 should be interpreted as 25 percentage points.

## 10 Conclusion

This chapter concludes the report and is divided into three sections. The first summarises the findings of the four key impact pathways of the BCSP programme and the programme's impact on nutrition. In the second section, overall lessons learned for the programme design are discussed. The third section presents key recommendations.

### 10.1 Findings

#### 10.1.1 Pathways to impact

##### 1. Resource effect: Does the BCSP benefit the health and nutrition of the mother and child as a result of the extra money?

**Yes it does.**

The data found that as a result of the BCSP cash transfer, per capita weekly consumption expenditure on food increased significantly in the soft conditions block, compared to the only technology block. More than two thirds of the respondents who had withdrawn their cash transfer money at least once spent at least a part of the money on their child and on themselves.

Calorie consumption per capita, per day, fell for all blocks. Even though this decline was somewhat lesser in treatment blocks, from the data, it is not evident that the BCSP significantly improved household calorie consumption. This was an unexpected finding.

The money was therefore spent on shifts towards more expensive sources of calories, like meat, fruits, vegetables and packaged foods, which increases diet diversity and macro and micronutrient consumption, even if not just calories. There were significant increases in maternal diet diversity, and evidence of a small amount of diversification of child diets. However, IYCF indicators for minimum diet diversity and minimum acceptable diet for children remain very low even in the treatment areas, suggesting that the BCSP cash is relatively ineffective at generating improvements in these areas. Perhaps complementary investments in nutrition counselling would overcome this. Less than one per cent of beneficiaries reported spending the money on alcohol, cigarettes, or general household expenditure.

##### 2. Conditions effect: Does the BCSP improve the uptake of nutrition sensitive services and behaviour?

**Yes and no. The programme's impact is uneven across conditions – being low especially with conditions that face strong cultural resistance, but very high for services requiring attendance.**

The programme incentivises uptake of services and change in nutrition sensitive behaviours. The services incentivised by the programme are monthly attendance at the VHSND, weight gain monitoring during pregnancy, child growth monitoring, receiving IFA tablets, and birth registration.

Uptake of services hinge on the beneficiaries' attendance at the VHSND and the active participation of the AWW in providing these services. The programme has had a significant positive impact on service uptake, by virtue of increasing attendance at the VHSND.

The programme had a statistically significant effect on the proportion of women who had attended the VHSND at least once during pregnancy and after childbirth, as well as the average number of

times they attended. This translated into similar effects for weight gain monitoring during pregnancy and child growth monitoring.

In the case of weight monitoring for children and receipt of IFA tablets, the uptake of conditions increased despite the absence of weighing machines and IFA tablets at the AWC. This suggests that beneficiaries found alternative means of service provision to meet the condition, presumably from the private sector.

In comparison, the two incentivised behaviours (namely exclusive breastfeeding and administering ORS to the child when she/he had diarrhoea) depend on the active participation of the mother, and not of the AWW. These conditions are also harder to verify.

When it comes to changing stubborn nutrition sensitive behaviours, the BCSP has had limited success. This is an unexpected finding. While the programme incentivised receipt of IFA tablets, women often hesitated consuming the pills for the fear of side-effects. No significant impact of the BCSP CCT was detected on the per cent of children who actually received ORS treatment for diarrhoea or women practicing exclusive breastfeeding. Interviews found misconceptions and strong religious beliefs amongst health workers and beneficiaries and their family members that countered appropriate breastfeeding practices.

### **3. Empowerment effect: Has the programme increased the recipient's agency?**

***If agency is defined as increased mobility and decision-making powers for women – the programme has had limited impact.***

The programme is designed to facilitate a pregnant woman and a mother to interact with the AWW in the centre, outside her home. The programme also requires women to own and frequently operate their own bank account. Additionally, the program encourages women to withdraw the cash transfer monthly, and make decisions about spending her money.

The BCSP did result in increased VHSND attendance; thus tying attendance to cash transfers encouraged programme beneficiaries, and her family, to increase her presence at the VHSND. However, this seemed to have had little impact on overall social mobility and agency of the woman. Cultural norms are difficult to address, and are unlikely to change significantly due to a single intervention. Moreover, given that the programme has run for a year, it is too early to observe significant changes in these practices.

The social mobility of a newly married woman is severely restricted, especially since they have just moved to the village. The 'newness' of a married woman wears off five to eight years after she is married (which often corresponds with her having two or more children). It is only after this that she can go out of the house on her own, and have a greater say in decision-making in the family.

Similarly, a woman's decision-making powers are not likely to change within a year. Recipients of the programme who lived in joint families, with their mother-and father in-law and husband said that even the decision on when to withdraw and spend the BCSP payment was often made as a family. This was in the same way decisions to spend money earned by any family member was made, in consultation with the 'guardians' of the family and not individually.

### **4. Accountability effect: Can the programme hold the public service delivery mechanism accountable to deliver health services?**

***Not yet – as accountability hinges on knowledge of entitlements and a strong grievance redress system, which were lacking at midline.***

The ability of a CCT to be effective depends to a large extent on the availability and quality of services offered by the ANMs and ASHAs. The programme design hinges on the hypothesis that receiving money as an incentive to access conditions would increase recipient's knowledge about and whet the recipients' appetite for receipt of services. Over time, if key frontline workers failed to deliver their services, respondents would hold them accountable to do so. Given that the programme has run for a year, it may be too early and ambitious to measure the impact of accountability on service delivery.

Since awareness levels were low, it is unlikely that the accountability mechanisms worked effectively. Around 48 per cent of the beneficiaries in both treatment blocks were able to recall VHSND attendance as one of the conditions followed by weight gain monitoring during pregnancy, and child growth monitoring at 35 and 23 per cent recall rate, respectively. The remaining conditions saw less than a 15 per cent recall rate.

This data is corroborated at the supply side - the BCSP had no significant impact on the VHSNDs being conducted in the treatment blocks any more than in the control blocks. In terms of availability of stock and services, findings were variable. For example, while there was an increase in child weighing machines in the soft conditions block compared to the technology block, there was a decrease in the hard conditions block compared to the soft conditions block. Stock that required to be sourced continually like the ORS or IFA tablets was low in treatment blocks.

In the absence of well-functioning community monitoring groups and the lack of awareness about the existence of these groups there were no external redress mechanisms that could hold service providers accountable either.

### 10.1.2 Impact on nutrition outcomes

**Has the BCSP helped improve anthropometric and biomedical outcomes for mothers and children below the age of two years?**

***It is too early to say for children's nutritional status but there is encouraging news for women's outcomes.***

The key impact indicators for the BCSP evaluation are children's stunting, wasting and underweight, and mothers' underweight (based on BMI) and anaemia (based on Haemoglobin level) status. In terms of indicators of children's nutritional status, the impact evaluation results cannot be assessed at the midline because there are only children under age one in the sample.

With a comparable age group at the endline, the impact estimates will be more robust and in keeping with the original power calculations done for the evaluation design.

Maternal anthropometric and biomedical outcomes have shown positive indications as well. The BCSP has reduced the prevalence of underweight among the mothers of children aged less than one year in the soft conditions block, viz-a-viz the only technology block, while anaemia prevalence is also directionally encouraging.

## 10.2 Lessons learned

### 1. Access to the programme

Rates of enrolment for SCs and, particularly, the poorest wealth quintile are significantly lower than those for other categories. This is partially explained by the differential rates of awareness about the BCSP of SCs and the poorest households outlined above; but further analysis shows that even

amongst those who were aware of the BCSP, SCs and the poorest households were less likely to be enrolled than other households.

The BCSP coverage needs to focus on increasing enrolment amongst the most disenfranchised – i.e. migrants who travel out for work and women from the poorest wealth quintile. More households were enrolled in BCSP than received THR under ICDS (54 per cent versus 41 per cent). However, poorer households who were not currently engaged with the ICDS system were unlikely to be able to enter the system to enrol for the BCSP. Targeted awareness and enrolment drives could increase enrolment from these sections.

Awareness programmes alone will not be sufficient as they are unlikely to address the key reasons for why these individuals have not been able to, or do not participate in the ICDS system. In order to increase enrolment, the programme needs to place accountability squarely on the shoulders of one key actor in the programme. This could, for example, be the AWW who is responsible to enrol beneficiaries. Regular monitoring to ensure that the AWW has enrolled all eligible beneficiaries and is providing them with services needs to be included into the design. Alternatively, the ASHA could be tasked with ensuring coverage of eligible beneficiaries. Adequate incentive systems for both the ASHA and AWW to coordinate need to be worked out for the programme to work successfully.

## **2. Financial access**

Challenges accessing the bank because the branch was far, expensive to reach or the bank staff was uncooperative is likely to discourage monthly withdrawals. If money accrues, the likelihood of the cash being spent on other, larger household items may increase in the future as beneficiaries fulfil more conditions. A small routine transfer is much more likely to be used in a pro-nutrition way than an infrequent, larger sum if the beneficiary is able to withdraw and use their money at the same frequency at which they receive it from the programme.

Distance to the bank and the underlying cost of accessing a bank are not immediate problems that can be solved by the programme. The design of a cash transfer needs to warrant that the cost to access banks, in terms of the time, money it takes to access the bank is not more than or a significant per cent of the sum transferred. In addition, every 'failed' visit, - that is, every time a beneficiary visits the branch but does not withdraw money – either because they have been turned away by the staff, or because their money has not reached their accounts – increases the cost of accessing banks. Communication about when money is reaching the beneficiaries' accounts need to be clear and bank staff should be trained to cooperate with beneficiaries, especially when they withdraw small amounts of cash.

## **3. Conditions that are easy to recall and monitor are critical**

Awareness levels about the BCSP were relatively high in the treatment blocks, averaging 77 per cent among beneficiaries. This awareness has been critical to increasing access to services at the VHSND and mothers and children being weighed and their growth being monitored at the AWC.

However, it is not evident that beneficiaries can recall and fulfil the conditions that demand a change in nutrition sensitive behaviour. Not only are these behaviours deeply entrenched in cultural practices, and as a result, hard to change, they are also challenging to monitor and verify as they depend on self-verification. If the programme were to prioritise certain conditions over others, there is evidence to support picking those that are easy to recall and monitor. This would lower the beneficiaries' reliance on the service provider to remind them of the condition they need to meet and increase their ability to hold the same provider accountable to deliver that service. Fewer conditions may help; there was some evidence that adding in hard conditions reduced the effectiveness of the soft conditions, for example for child weight monitoring.

#### 4. Grievance redress systems missing

The BCSP midline survey showed that, of those who had heard of the BCSP, only about 11 per cent had heard of the CMGs. The BCSP can strengthen CMGs based on other projects in India which employ community-based monitoring, such as 'Swasth Plus' - Community Monitoring Project, Karnataka; People's Health Management Information System Project, Orissa; 'Prayas', Rajasthan; Rural Poverty Reduction Project (Monitoring of Health Services). Some of the reasons for success of community-based monitoring in these projects was the presence of civil societies, and the involvement of both the community and public health personnel. A more formal system of monitoring, where there is regular dialogue between the CMGs and other stakeholders, is required to nudge the CMGs to perform its duties<sup>44</sup>.

### 10.3 Recommendations

Given the positive evidence so far, it is recommended that the BCSP pilot continues until the endline, scheduled in autumn 2016. At the endline, evidence on the effects on anthropometric outcomes for children will be available. Scale-up decisions by the Government should be based on this evidence.

It is recommended that minor tweaks to the programme design, based on Section 10.2, are considered. This may not be possible for the remainder of the pilot, and can be considered if the programme is scaled up.

It is recommended that the pure control block is dropped from the endline. As was discussed in Section 3.1.11, the report presented difference-in-differences estimates only between the hard and soft conditions block (to isolate the effect of adding additional 'hard' conditions), and between the soft conditions and the only technology block (to isolate the effect of adding conditions and cash incentives).

Conceptually, a true study of programme effectiveness would compare the soft conditions CCT with a pure control block because the technology systems effect is part of the programme. If the technology systems have an independent effect, then comparing the soft conditions CCT with the only technology control block would be an underestimate of impact. However, it is critical to isolate the effect of the technology systems themselves because if they have a big effect, they could be introduced without the CCT for a much lower cost.

Analysis comparing the technology only block and the pure control block shows no positive impacts of the technology system without the cash transfer. Therefore, any impact measured between the soft conditions block and the technology only block is likely to capture the "full" impact of the programme.

It is therefore recommended that the pure control block is dropped from the endline as it will not generate additional information for impact calculations, and dropping it can reduce the cost of the evaluation.

<sup>44</sup> Garg, S., & Laskar, A. R. (2010)

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