Baseline Report for the Impact Evaluation of the Save the Children Early Childhood Stimulation Program

Strategic Impact Evaluation Fund, World Bank

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The evaluation of the Save the Children Early Childhood Stimulation Program in Bangladesh is being conducted by American Institutes for Research (AIR), with funding from the World Bank Strategic Impact Evaluation Fund and the World Bank Bangladesh Country Office. The Principal Investigators for the overall evaluation are AIR's Marjorie Chinen and Julia Lane. The Bangladesh-based Principal Investigators are Jena Hamadani of the International Centre for Diarrhoeal Disease Research in Bangladesh, Najmul Hossain of Data International, and Minhaj Mahmud of the BRAC Institute of Governance and Development in BRAC University. In addition to the Principal Investigators, many other individuals made important contributions; they are listed below by institutional affiliation and in alphabetical order within institution:

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Acronyms

AHI	Assistant Health Inspector
AIR	American Institutes for Research
BMRC	Bangladesh Medical Research Council
CC	Community clinic
CHCP	Community Health Care Provider
DC	Data Collector
DI	Data International Ltd.
ECSP	Early childhood stimulation program
FPI	Family Planning Inspector
FS	Field Supervisor
FWA	Family Welfare Assistant
GPS	Global Positioning System
HA	Health Assistant
HI	Health Inspector
ICDDR,B	International Centre for Diarrhoeal Disease Research, Bangladesh
ICHD	Institute of Child and Human Development
IPHN	Institute of Public Health Nutrition Bangladesh
MOHFW	Ministry of Health and Family Welfare
MTEPI	Medical Technologist Expanded Program on Immunization
RCHCIB	Revitalization of Community Health Care Initiatives in Bangladesh
SIEF	Strategic Impact Evaluation Fund
UFPO	Upazila Family Planning Officer
UH&FPO	Upazila Health and Family Planning Officer

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Executive Summary

Globally, at least 200 million children younger than five years old are falling short of their potential for development and growth. In Bangladesh, 22% of infants have low birth weight and 64% are exclusively breastfed until age 6 months. Forty-one percent of children under five have stunted growth, and the majority lack appropriate stimulation and early learning opportunities. There is some evidence that improvements to children's health, nutrition, and development outcomes can be made through programs that provide direct learning experiences to children and families; are targeted toward younger and disadvantaged children; are of longer duration; and are integrated with family support, health, nutrition, or educational systems and services. Yet there are serious gaps in knowledge about how to deliver integrated early childhood interventions in cost-effective ways in low-income settings—that particularly focuses on improving growth and child development in the first thousand days of a child's life. This report presents baseline results for an evaluation of one such intervention in Bangladesh.

The Program. Save the Children has developed a low-cost and potentially scalable early stimulation program that delivers effective and actionable messages to mothers and other caregivers that show them how to interact and play with young children. The program also delivers a Child Development Card and two picture books, and instructions on how to use the card and the books to provide children with early learning opportunities.

The program is low cost and potentially scalable because it builds on an existing delivery platform—nutrition education delivered via local community clinics—and trains current community health care providers to deliver additional messages on early childhood stimulation practices. This program is being implemented in three regions in Bangladesh, and has the potential to be scaled up to improve child well-being throughout the country.

The Impact Evaluation. AIR and its research partners at Data International (DI), the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B), and Minhaj Mahmud, the head of research of BRAC Institute of Governance of BRAC University, are conducting a cluster-randomized control trial to evaluate the impact of the early stimulation program in the regions of Satkania, Muladi, and Kulaura in Bangladesh. The study is also receiving advice from a Technical Advisory Board consisting of child development and nutrition specialists and government officials in Bangladesh.[1]

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[1] The members of the evaluation's Technical Advisory Board are Ms. Mahmuda Akhter, Institute of Child and Human Development (ICHD); Dr. Jena Hamadani, ICCDR,B; Dr. Baren Mandal, Revitalization of Community Health Care Initiatives in Bangladesh (RCHCIB); Dr. Makhduma Nargis, RCHCIB; Dr. Lutfor Rahman, Institute of Public Health Nutrition Bangladesh (IPHN); and Dr. S. M. Mustafizur Rahman, NNS. The group has already provided invaluable feedback into both design and implementation, and will continue to provide guidance, review, and community outreach for the research team for the remainder of the study.

In this evaluation, community clinics are randomly assigned to either receive the Save the Children intervention or not. Data on individual child outcomes and family stimulation behavior are collected from households within the catchment areas of these community clinics.

The Sample. Seventy-eight community clinics are participating in the study, with half receiving the intervention (the treatment group) and half not receiving it (the control group or "business as usual"). Thirty-three households with children between 3 and 18 months of age residing in the catchment area of each community clinic at the time of baseline data collection were randomly sampled, resulting in a total sample size of 2,574 households, half treatment and half control.

Baseline Results. The primary purpose of the baseline data collection is to measure the starting point of all participants in the sample and check that the treatment and control conditions are balanced before the start of the intervention. This baseline validates the study design used in the impact evaluation. The randomization process appears to have worked successfully in terms of creating equivalent groups at baseline because the mean characteristics of the groups were balanced between the treatment and control conditions.

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I.   Introduction

The purpose of this evaluation is to examine whether and how the Early Childhood Stimulation Program (ECSP) implemented by Save the Children in Bangladesh affects the cognitive and language development and anthropometric outcomes of children between 3 and 42 months of age.

The study is being carried out in Bangladesh, which has a recent history of successful policy interventions, such as family planning, microcredit, and the Green Revolution. These interventions are largely based on a recognition that women are key agents of change; a broad political consensus in favor of working with large NGOs, such as Grameen and BRAC; and a willingness to implement changes without waiting for favorable economic preconditions (Economist, 2012).

Bangladesh is an extremely poor country, and the eighth most populous country in the world—with around 150 million people, including 61 million children. Forty-one percent of children under age 5 in Bangladesh have stunted growth (*Bangladesh Demographic and Health Survey 2011 Preliminary Report*, 2011), 22% of infants have low birth weight, and 64% of children are exclusively breastfed until the age of 6 months (*Bangladesh Demographic and Health Survey 2011 Preliminary Report*, 2011). The majority of these children lack appropriate stimulation and early learning opportunities. A major challenge faced in Bangladesh has been how to scale successful nutrition programs—particularly those focusing on change communication, improved nutritional status through food intake, and vitamin supplementation when needed (Ahmed et al., 2012).

This baseline report begins with an introduction and a conceptual framework that describes the program under evaluation and our evaluation study design. We then discuss data collection activities, including sampling methods. This is followed by tables that summarize the descriptive findings of the baseline data collection. Finally, the report describes risks to the study design and how we will address these risks.

A. Background and Program Description

This impact evaluation examines the effectiveness of a program that educates families about early childhood stimulation; the program supplements a national early childhood nutrition program. The stimulation program, implemented by Save the Children, targets poor, rural families in Bangladesh that have pregnant women or have infants under three years old who are at risk of poor nutrition and development outcomes. The program delivers messages to mothers and other caregivers that show them how to interact and play with young children.

The policy context within which the program will be implemented is very favorable because it leverages an important new government program—the National Nutrition Service (NNS)—that attempts to address malnutrition by "mainstreaming" nutrition within government services. The NNS is a key component of the recently enacted national Health Population Nutrition Sector Development Plan (HPNSDP), which guides government programs from 2011 to 2016. The NNS has developed a package of

interventions for national scale-up (National Nutrition Project, 2012); the full description of the NNS program and a list describing the components of the NNS is provided in Appendix A. The institutional context is matched by a personal commitment: the director of the NNS implementation is a pediatrician with a longstanding interest in child cognitive development and sits on the evaluation advisory board. In addition, the program not only leverages the institutional infrastructure provided by the NNS, but it is developed and implemented in collaboration with the Ministry of Health and Family Welfare (MOHFW) in response to its interest in developing an effective integrated model that supports nutrition and stimulation.

Description of Save the Children Program

The early childhood stimulation program developed by Save the Children seeks to improve child development by promoting positive early stimulation practices and maternal responsiveness to the emotional and physical needs of children up to three years old. The program builds on an existing delivery platform—household visits and community clinics—and trains community health care and family planning providers to counsel families (especially mothers of young children) on early childhood stimulation practices. The training takes place during routine household visits as well as during sick or well-baby visits to community clinics. Each household receives a Child Development Card, a booklet with key messages, and two picture books—one containing pictures and names of common household objects and the other containing pictures and names of objects in nature (a more detailed description of the materials is presented in Appendix B). Mothers and other caregivers in the household are shown how to use the card and the books to provide children with a variety of early learning opportunities.

 The early childhood stimulation program is integrated into the NNS platform.[2] The NNS program trains service providers to deliver a comprehensive nutrition package to households with young children, and Save the Children complements this by providing additional training modules on early stimulation and responsive care. Save the Children plans to run the program until the end of 2015—when the NNS pilot program is also designed to end—and it is expected that the lessons learned will be incorporated into a broader national rollout of the NNS package.

The Save the Children program is implemented through three types of service providers operating within community clinics (CC). A community clinic is an established health facility that delivers local primary health care—primarily preventive and limited curative services, as well as family planning services—in rural areas. Community clinics are expected to serve a population of approximately 6,000

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[2] *Early childhood stimulation* is defined as providing young children with constant opportunities to interact with caring figures and to learn about their environment from the earliest age. In practice, stimulation is about parents and other caregivers being responsive to the emotional and physical needs of their children from birth onward, playing and talking with them (even before children can respond verbally), and exposing them to words, numbers, and simple concepts while engaging in daily routines.

households and to be accessible to at least 80% of the population, especially vulnerable groups, living within 30 minutes walking distance.[3]

Within a community clinic, there is one community health care provider (CHCP), at least one health assistant (HA), and at least one family welfare assistant (FWA). These service providers directly support pregnant women and children under the age of five in the community around the clinic, with a particular focus on their health (including reproductive health) and nutrition. FWAs and HAs are both tasked to visit households. FWAs are in charge of delivering family planning services and looking after the general well-being of pregnant mothers and children under the age of three, and they are expected to visit households at least once per month.[4] HAs are in charge of providing health services to children under the age of five, and they are expected to visit households to care for young children who are malnourished, take care of immunization, and care for diarrhoea and fever problems. The CHCP is stationed in the community clinic and provides nutrition and health services to children under the age of five.

In addition to the training provided to the service providers, the health inspector (HI), family planning visitor (FPV), and family planning inspector (FPI) received an orientation to the program activities and were trained in supervising the frontline service providers, although they do not participate in program delivery. The Health Inspector and Family Planning Inspector respectively monitor and supervise the activities of the health assistants and family welfare assistants in the community clinic, and in the field. While doing their routine monitoring work, the Health Inspector and the Family Planning Inspector are also expected to monitor the stimulation services in the treatment areas. In the control area, however, the health inspector and the family planning inspector do not carry out these additional responsibilities.

Although mothers are the primary target group for this intervention, an important aspect of the program is its focus on reaching out to as many caregivers in each household as possible with key program messages. This family-oriented approach is intended to increase the likelihood that mothers have the support and approval of others in their household as they adopt and practice the key program recommendations. The program places particular emphasis on reaching out to fathers and other male caregivers, and to mothers-in-law (who are very influential in terms of caregiving practices and decisions in Bangladesh), as well as other key adults in intervention households. FWAs and HAs are expected to engage with all available caregivers during home visits, not just the mother.

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[3] Normand, C., Iftekar, M. H., and Rahman, S. A. (2006). *Assessment of the community clinics: Effects on service delivery, quality and utilization of services*. Health Systems Development Programme HSD/WP/12/02. http://r4d.dfid.gov.uk/PDF/Outputs/HealthSysDev_KP/bang_comm_clinics_web_version.pdf

[4] They are also responsible for monthly community and satellite health clinics in each village under their supervision.

Current Status of the Program

After finalizing the baseline data collection, AIR randomized community clinics to treatment and control groups on January 31, 2014.[5] Immediately after randomization, AIR sent the list of community clinics assigned to the treatment condition to the Save the Children implementation team.

Save the Children officially launched the program in ceremonies conducted in Dhaka and in each of the three regions of the study. The Dhaka ceremony occurred on March 10, 2014, and the local ceremonies were held in March and April 2014. The goal of these launching ceremonies was to present the study and gain support from the relevant local authorities and key stakeholders.[6]

Save the Children conducted their training activities between February and April 2014. Frontline providers received four-day training on stimulation and responsive care. During the training, service providers received a full orientation on the key aspects of the program, and they were given an opportunity to practice delivering the program while receiving feedback and support on how best to counsel mothers.

The materials given to community health care and family planning providers included the clinic visit guidelines, the home visit guidelines, a key message picture booklet, and a training course summary. Save the Children has also developed a script (which lasts between five and eight minutes) for frontline service providers to use when a caregiver makes a routine or sick visit to the community clinic, or when the provider visits the household. The key message booklet contains the eight key messages of the program, with appropriate illustrations for each message.[7]

B. Objectives and Research Questions

Objectives

The evaluation has four main objectives. The first objective is to document the impact of the early stimulation program on children's cognitive and language development, children's anthropometric outcomes, and mothers' parenting behaviors.

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[5] The randomization is explained in more detail in the section that describes the design of the study.
[6] A brief summary of the launching ceremonies is presented in Appendix B.
[7] Appendix B provides more detailed information on the program curriculum, as well as a summary of training activities and a brief description of the launching ceremonies. Furthermore, this appendix includes the community clinic and home visit guidelines, the key message picture booklet for service providers, the child development card, the key message picture book for households, the household picture book, and the nature picture book.

The second objective is to build understanding about the intervention process by describing the mechanism through which the program affects child outcomes—that is, namely to understand the dynamic interrelationships between mothers' knowledge, mothers' behavior, and child development outcomes, and to examine the fidelity with which the programs can be implemented (namely the delivery of services and outreach by health workers).

The third objective is to provide information to the Bangladesh government about the scalability of the program, if it is found to be effective. This includes estimating the benefits of the intervention relative to the costs in order to inform national and international policy and program development, and investigating the potential of scaling the program using the NNS platform.

The fourth objective is to build local capacity and inform policy by using impact evaluation techniques in close collaboration with the government of Bangladesh (GOB), Save the Children, and national-level research and program institutions. The goal is to reach local networks of subject matter experts (through our technical advisory board), and to participate in regular workshops to inform national-level policy and program changes affecting young children in Bangladesh. The study also includes outreach activities, including producing and disseminating newsletters in both English and Bengali and setting up a project website.[8]

Research Questions

There are five research questions that guide the evaluation:

1. What is the impact of the early childhood stimulation program (delivered with the national nutrition program) on children's cognitive development outcomes?

2. What is the impact of the early childhood stimulation program (delivered with the national nutrition program) on children's anthropometric outcomes?

3. What is the impact of the early childhood stimulation program on mothers' parenting behaviors?

4. What is the benefit of the intervention relative to the cost?

5. What is the mechanism through which the intervention affects the outcomes of interest?[9]
    a. What is the impact of Save the Children's training on the service delivery and outreach of health workers?

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[8] http://www.air.org/project/evaluating-early-childhood-stimulation-program-bangladesh
[9] This is an exploratory and non-experimental research question and it is plausible that there may be other unexamined mechanisms.

b. Do service providers deliver the program as intended?

c. What is the impact of the early childhood stimulation program on mothers' knowledge of early childhood practices?

II.   Conceptual Framework

Children's development—and long-term adult productivity—is the product of multidirectional interactions between poverty, socio-cultural factors, and psychosocial and biological factors. The conceptualization of development as a dynamic interplay between biological and environmental factors suggests that development is malleable, and that it can be affected by interventions targeting the child, the environment, or both. [10] Positive and negative environmental factors affect child development. Positive environmental factors include opportunities to explore one's surroundings and engage in learning activities; negative factors include exposure to psychosocial risks (e.g., harsh disciplinary techniques or maternal depression) and biological risks (such as malnutrition and infectious diseases).

A large body of research conducted in developing countries has found that adequate nutrition in infancy and early childhood is a critical foundation for children's physical and cognitive development (Black et al., 2008; Engle & Huffman, 2010; Grantham-McGregor, 1995; Grantham-McGregor & Ani, 2001; Khanam, Nghiem, & Rahman, 2011; Victora et al., 2008). Interventions designed to improve family nutrition and dietary diversity are widespread in developing countries, and there is strong evidence that these interventions are effective in terms of improving both children's physical growth outcomes and their cognitive skills. A review of studies of nutrition interventions found that they have the potential to improve children's physical outcomes, particularly their height-for-weight ratios (Bhutta et al., 2008). Studies of nutrition programs in Bangladesh have also found positive effects on children's physical development (Roy et al., 2005; Roy et al., 2007).

In Bangladesh, the evaluation of the National Nutrition Program (NNP) found that the program was successful in implementing planned area-based nutrition interventions. The findings show that the NNP was effective in improving knowledge and prompting changes in some key health-related and nutrition-related attitudes and practices. The study also indicated that the community-based approach to delivering nutrition services was relatively successful for most of the project activities. The use of community-based nutrition centers and promoters ensured that project beneficiaries had regular and consistent contact with service providers—a factor that plays an important role in changing behaviors. The study also indicated, however, that it was unlikely that the NNP program would achieve its objectives of improving birth weight and reducing maternal and child malnutrition in the targeted

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[10] Walker, S. P., Wachs, T. D., Gardner, J. M., Lozoff, B., Wasserman, G. A., Pollitt, E., & Carter, J. A. (2007). Child development: Risk factors for adverse outcomes in developing countries. *Lancet*, *369*(9556), 145–157. Elsevier. Retrieved from http://doi.wiley.com/10.1111/j.1365-2214.2007.00774_2.

communities. The study speculates that this may be due to the complex causation of malnutrition, which requires a more holistic and multi-sectorial approach.

While adequate nutrition is a necessary precondition for healthy physical and cognitive development in young children, they also require stimulation to achieve their full learning potential. Stimulation in infancy and early childhood is important for optimal brain development (Avants et al., 2012; Farah et al., 2008; Shonkoff & Phillips, 2000; Walker et al., 2011; Walker, 2010), and a review of child development risk factors for children in developing countries identified low levels of cognitive stimulation in infancy as one of the most salient risks (as well as a number of health-related factors and other psychosocial challenges) (Walker et al., 2007). Similarly, a review in the *Lancet* found evidence across a number of studies that stimulation interventions had positive effects on child developmental outcomes (Walker et al., 2011).

Observational studies have also found that parent stimulation behaviors are associated with children's later cognitive skills, both in the United States and in developing countries (Barros, Matijasevich, Santos, & Halpern, 2010; Bradley, RH; Corwyn, RF; Burchinal, M; McAdoo, HP; Coll, 2001; Lugo-Gil & Tamis-LeMonda, 2008; McLoyd, 1998; Shonkoff & Phillips, 2000; Zaslow et al., 2006), which suggests that improving parent-child interactions may increase children's cognitive skills.

A number of parenting interventions have been implemented in developing countries, including Bangladesh, to encourage parents to engage in supportive and stimulating interactions with their children. In a systematic review of parenting interventions in low- and middle-income countries (which were designed to promote development in children under the age of four through stimulation), almost all studies found positive effects on child developmental outcomes (20 out of the 21 studies that measured this outcome), and most found positive effects on parenting practices as well (14 out of the 16 studies with this outcome) (Baker-Henningham & Boo, 2010). The review found that the most disadvantaged children tended to benefit most from these interventions. The authors caution that the studies they reviewed were small-scale efficacy studies with intensive training and implementation support, which means that the findings may not generalize to scaled-up programs. However, the authors also mention that large-scale comprehensive early childhood programs have large effects on child development.

Other Bangladeshi parenting interventions (including two that were included in the 2010 Baker-Henningham and Boo review) have found positive effects on child development. One of the studies (Hamadani et al., 2010) randomly assigned communities to either a control group or a group that received a stimulation-focused parenting intervention (with regular group meetings as well as regular home visits to mothers). The study found positive impacts on children's cognitive skills and mothers' knowledge about parenting, although there was no effect on children's nutrition status or growth. Other studies of similar parenting programs targeted at severely malnourished Bangladeshi children found that the parenting intervention had positive effects on both children's cognitive outcomes and child weight for age in comparison with a time-lagged control group of malnourished children in the same location the year before the intervention (Nahar et al., 2009). It also found positive impacts on child-rearing practices and the home environment in a randomized controlled trial (Nahar et al., 2012)

The Save the Children early childhood stimulation program draws on this literature and is designed to improve household environmental conditions that promote child development. The theory of change for this intervention is based on the premise that behavioral change messaging is most effective when focused on and integrated throughout the community. Knowledge about early childhood stimulation and early childhood development—which will be delivered by the service providers—is expected to increase primarily among mothers, although it is possible that fathers and other caregivers in the household will also learn about the messages through the different intervention materials.[11]

A detailed conceptual framework that illustrates the expected chain of events resulting from ECSP is depicted in Figure 1. The first part of the theory of action involves successful implementation of the program model and includes inputs (program resources), activities (program work to create outputs), and outputs (goods and services delivered to families). The second part of the theory of action indicates the expected results of the program model and includes both proximal outcomes (adoption of the ECSP outputs by families) and more distal outcomes (project goals related to child developmental and nutritional outcomes).

Figure 1: Early Childhood Stimulation Program Results Chain

Inputs	Activities	Outputs	Outcomes	Final Outcomes
• Budget for early childhood stimulation program (ECSP) materials and training • Ministry of Health and Family Welfare staff (FWAs/ HAs/CHCPs) • Implementation support and program delivery infrastructure from Save the Children	• Training of NNS health service providers • Training of service providers by Save the Children • Printing and provision of the Child Development Card and other program materials to FWAs/ HAs/CHCPs for distribution to families	• FWAs/ HAs deliver Child Development Cards and other materials to families • FWAs/HAs include ECSP messages to mothers during their visits at least once a month	• Mothers receive the messages and materials • Mothers increase their knowledge about parenting stimulation • Mothers engage in more supportive and stimulating interactions with their children • Other caregivers engage in more supportive and stimulation interactions with children • Household nutrition and health environment improves	• Children's nutritional development improves • Children have gains in cognitive and language skills

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[11] CHCPs, HAs, and FWAs enjoy a good reputation in their area and, because they provide health care, communities place a great deal of trust in them. As a result, we expect that these government workers—after receiving training on parenting behaviors to support child cognitive development—will be able to effectively deliver that information to parents in their communities.

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III.   Study Design

This evaluation is a cluster-randomized control trial (RCT), in which community clinics within the same union (or administrative unit) are randomly assigned to either receive the intervention or not receive the intervention. We measure impacts by collecting data on individual children and their families, all of whom are nested within these community clinics.

As discussed earlier, the Save the Children early childhood stimulation intervention builds on the NNS platform, which already reaches out to frontline service providers. The intervention complements the nutrition-related training of the NNS with training on early stimulation. Save the Children has trained service providers (FWAs, HAs, and CHCPs) operating in community clinics to deliver their early stimulation messages.

The impact evaluation focuses on community clinics and their catchment areas as the unit of randomization. Community clinics are ward-/village-level health facilities that deliver local primary health care and family planning services in rural areas, which is the target population of interest. Since the catchment areas among community clinics do not overlap, the inclusion of different community clinics in the study allows for geographic variation. In addition, the use of the community clinic as the unit of randomization (instead of the household) minimizes contamination problems (e.g., treatment group members sharing their experiences with control group members), and it does not deny the program to eligible beneficiaries on an individual child or household basis.

The study design includes stratification (blocking) at the union level. There are, on average, two or more community clinics within each union, which allows the implementation of both treatment and control conditions in each union. This design is advantageous for two main reasons. First, by having both treatment and control conditions within the same union, we increase the likelihood that the research groups are similar in terms of observable and unobservable characteristics. Second, by blocking at the union level, we minimize the possibility that extraneous sources of variance will be introduced into the design and affect one of the groups, thereby biasing the estimation in unknown ways. For example, implementation of NNS services began in 2013 in the selected upazilas, and it is possible that some changes in the implementation mechanism may occur during 2014 or 2015. For instance, it is plausible that if a certain delivery mechanism shows problems in reaching target beneficiaries, the NNS may readjust the delivery mechanism in order to improve the delivery mode in that particular area. If any changes to the NNS occur, they are likely to be implemented at the upazila or union level. To minimize the possibility that changes in the NNS would affect only one of the treatment conditions, randomization of community clinics occurred within each union.

Randomization of Community Clinics: To avoid any potential anticipation effects, AIR performed this randomization on January 31, 2014, after the collection of the baseline data had been finalized. AIR and its partners decided that it would be most efficient for AIR to do the random assignment of treatment and control status in house using Stata software. In the interest of transparency (and to familiarize officials and field-level health workers with the process), a brief description of the rules was provided at the launch ceremony on March 10, 2014, when Save the Children introduced the program to

key stakeholders. Save the Children was provided with the Stata syntax file, as well as the resulting data file with the assignment in Excel. As we have already described, we stratified at the union level to randomize treatment and control status. A total of 39 community clinics were randomized to the treatment condition and another set of 39 community clinics were randomized to the control condition.[12]

Definition of the Treatment and Control Groups: In the treatment group, all 39 community clinics are receiving the NNS nutrition package. FWAs, HAs, and CHCPs received four-day training on early childhood stimulation, as well as the program materials developed by Save the Children. Early stimulation messages (along with the program materials) will be delivered to mothers and other caregivers during routine household visits, as well as during sick or well-baby visits to community clinics.

The 39 community clinics assigned to the control group are also receiving the NNS nutrition package. However, the service providers operating in these community clinics are not receiving training on the early childhood stimulation program developed by Save the Children. Furthermore, the households living in the control group community clinics' catchment areas are not receiving the early-stimulation messages, nor any of the Save the Children program materials. The control households represent the "business as usual" condition.

The child health and nutrition characteristics of the sample are reported in detail in Appendix E, Tables 1–6. These tables document the starting point for everyone in the sample in terms of child health and nutrition.[13]

A. Outcomes and Measures of Interest

The study examines three types of outcome data aligned with the theory of change. We collected data from two types of outcomes related to child development and child nutrition. Furthermore, we collected intermediate data relating to parenting knowledge about early childhood stimulation and

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[12] More details of the additional rules used to determine treatment or control status (especially when dealing with unions that contain an uneven number of community clinics) are provided in Appendix C. In this appendix Table C1 presents the randomization procedure by Upazila and Union and Table C2 present the randomization results. In this appendix we also include the Stata syntax used to assign treatment status.

[13] The tables document household practices of key interest for the NNS, which is interested in community-based promotion of positive nutrition practices. This includes: exclusive breastfeeding for children up to six months old, appropriate complementary feeding practices for children from six months to two years of age, screening for malnutrition, and appropriate referral to healthcare facilities for treatment. The research team will be able to assess whether the NNS intervention has a similar impact in both the treatment and control conditions by comparing differences in these variables between the baseline and the endline.

parenting stimulation behaviors. These items largely target mothers, although other caregivers in the household may also adopt some of the behaviors promoted by the program.

Child Development Outcomes: The study collects direct measures of children's cognitive and language development using the Bayley Scales of Infant and Toddler Development, Third Edition (Bayley–III), translated into Bengali. The Bayley instrument is a standardized assessment of infant development that captures a child's level of development in different domains (Bayley Technical Manual, 2006). The Bayley–III is an individually administered instrument that assesses the developmental functioning of infants and young children between the ages of 1 month and 42 months. The main purpose of the test is to identify children with developmental delay and to provide information for intervention planning. Although the Bayley–III assesses infant and toddler development across five domains, this evaluation only uses the cognitive and language assessments. Assessment of the cognitive and language domains is conducted using items administered to the child.

The cognitive scale includes items that assess sensorimotor development, exploration and manipulation, object relatedness, concept information, memory, and other aspects of cognitive processing. The language scale consists of receptive communication and expressive communication subtests (receptive and expressive language requires different abilities and can develop independently). The receptive communication subtest includes items that assess preverbal behaviors; vocabulary development; vocabulary related to morphological development; and understanding of morphological markers. This subscale also includes items that measure children's social referencing and verbal comprehension.

The expressive communication subscale includes items that assess preverbal communication (such as babbling, gesturing, joint referencing, and turn taking); vocabulary development (such as naming objects, pictures, and attributes); and morpho-syntactic development (such as using two-word utterances, plurals, and the appropriate verb tense).

The test was administered at the local community clinic or at another suitable private place (such as a satellite clinic, a Family Welfare center, or a primary school).[14] Although we initially planned to test each child at his/her home, results from the pilot testing revealed that the homes typically had insufficient light or lacked suitable testing space, or that there was too much distracting noise. Since the test must be performed in a quiet and consistent environment, with no distractions for the child, the research team (together with the advisory group) decided to bring the mother and child to a nearby place where the child could be tested properly.[15]

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[14] In 80% of the cases, the children were tested in a community clinic, satellite clinic, or Family Welfare center. In the remaining 20% of cases, the children were tested in a private place or at a primary school.
[15] The details of the pilot study are described later on in this report.

The Bayley test has not been standardized for Bangladesh, but it has been adapted for use in this country and used by our early child development (ECD) experts, Dr. Jena Hamadani and Dr. Fahmida Tofail, who have found plausible and encouraging correlations between the Bengali Bayley and children's nutrition, the level of home stimulation, and families' socio-economic status (e.g., Hamadani et al. 2010). In their research, the Bayley test also appeared to capture effects of nutritional and psychosocial interventions in young children in Bangladesh (e.g., Hamadani et al., 2006; Tofail et al., 2013; Nahar et al., 2012). Few standardized developmental assessments have been used with Bangladeshi children and no published results were located that indicated that assessments other than the Bayley test have been used with this age range. As a result, and on the advice of our ECD experts, the Bayley test was selected as a principal outcome for this study (Frogillo et al., 2014).

Raw scores of successfully completed tests were converted to scaled scores according to the child's age, and the latter were converted to composite scores, which represented the "Developmental Quotient (DQ)." These norm-referenced scores are used to determine the child's performance relative to typically developing children of the same age (in months).

Table 1: Child Development Outcomes

Outcome	Level of Measurement	Measure by
Cognitive development	Child aged 3–18 months	Bayley–III
Language development	Child aged 3–18 months	Bayley–III
Receptive communication Expressive communication		

Note: These outcomes were collected directly from each child.

Anthropometric Outcomes: The evaluation team collected data on the height and weight of the children in the study to capture their health and nutritional status. The anthropometric indices—height for age, weight for height, and weight for age—are expressed in terms of *z*-scores or standard deviation scores,[16] which are used to compare the indices with the National Center for Health Statistics/World Health Organization International (WHO) Growth reference population. A child whose height-for-age score is more than two standard deviations below the median (-2 SD) of a reference population is considered short for his/her age or stunted. Stunting reflects the cumulative effect of chronic

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[16] The deviation of an individual's value from the median value of a reference population, divided by the standard deviation of the reference population.

malnutrition. A child whose weight-for-height score is more than two standard deviations below the median (-2 SD) of a reference population is considered too thin for his/her height, or wasted. Wasting is a condition that reflects acute or recent nutritional deficit. The weight-for-age score is a composite index of stunting and wasting and is considered a good indicator for monitoring nutritional status over time.

Table 2: Child Anthropometric Outcomes

Outcome	Level of Measurement	Description
Stunted	Child aged 3–18 months	z-score more than two standard deviations below the median height for age of the WHO reference population
Underweight	Child aged 3–18 months	z-score more than two standard deviations below the median weight for age of the WHO reference population
Wasted	Child aged 3–18 months	z-score more than two standard deviations below the median weight for height of the WHO reference population

Note: These indicators were collected directly from each child.

Parenting Stimulation Knowledge and Stimulation Behavior Measures: The household survey included a modified, shortened form of the Home Observation for Measurement of the Environment (HOME) instrument. Ten questions were included in the survey to capture caregivers' behaviors in terms of promoting child development, organizing a physical and temporal environment, and providing opportunities for variety in daily stimulation. The HOME instrument has been used as a proximal outcome measure in a number of other studies, both in the U.S. and internationally. Items that were not aligned with the program and that were very difficult to get close agreement on among field interviewers were excluded from the instrument.

The HOME items were complemented with measures from the Family Care Indicators (FCI). These indicators were developed to measure the quality of children's home environment in large populations and were derived from the Home Observations for Measurement of the Environment instrument. Dr. Jena Hamadani piloted the FCI indicators with 801 rural Bangladeshi mothers in previous research

(Hamadani, 2010).[17] The FCI indicators include items related to the variety of play materials, play and learning activities, and the availability of household books, magazines, and newspapers.[18]

Finally, the household survey included eight questions intended to capture information on parenting stimulation knowledge. These questions were obtained from the Knowledge of Infant Development Inventory (KIDI) and modified by the team to suit the local context.[19]

Table 3: Intermediate Measures for Parenting Stimulation Knowledge and Stimulation Behaviors

Indicator	Level of Measurement	Description
Stimulation practice	Mother	Ten questions from the Modified Short Home Observation for Measurement of the Environment (HOME) inventory.
Variety of play materials	Mother	Seven questions from Family Care Indicator (FCI) asking whether the child plays with toys, materials for drawing, or toys that encourage movement; and about the availability of reading materials such as picture books, magazines, and newspapers.
Play/learning activities	Different family members	Five questions from Family Care Indicator (FCI) about stimulation activities engaged in with the child, posed to the mother, the father, and any other household member older than 15 years of age.
Stimulation knowledge	Mother	Eight questions regarding stimulation practices modified and adapted from the Knowledge of Infant Development Inventory (KIDI).

[17] In the 2010 study, Hamadani found supporting evidence that FCI were easy to administer to, and could be understood by, Bangladeshi mothers living in extreme poverty, and that they were predictive of child development (as measured by the Bayley test). The indicators were developed by the United Nations Children's Fund (UNICEF) to measure the home environment of young children in developing countries in large population surveys, with an emphasis on items likely to be related to cognitive and language development. Items were adapted from several sources, including the HOME instrument.

[18] Play in early childhood is believed to promote cognitive development and contribute to a child's ability to understand and develop symbols (Piaget, 1952; Vigotsky, 1978).

[19] We searched for an instrument with items that align (to the extent possible) with the messages of the Save the Children program. Following the pilot, and after discussions with the team, we decided to include a subset of eight items from the KIDI instrument.

Note: These indicators were collected in the household survey.

Other Measures: During the baseline phase of the study, we also collected other measures that are expected to help the research team contextualize the sample and better understand the endline results.

For example, our household questionnaire includes a short module on mothers' depression. Depression is reported to be a leading cause of women's disease burden and about one third of Bangladeshi mothers suffer from some form of depression. Depressed mothers often fail to provide sufficient stimulation and care for their children and, as such, could compromise the benefits of early stimulation programs. Maternal mental health is identified as an important predictor of child development, particularly in low- and middle-income (LAMI) countries (Patel et al., 2004; Walker et al., 2011; Murray & Cooper, 1997; Black et al., 2007).

We also collected data on the head circumference of the children as part of the anthropometric measures. Head circumference is closely correlated to cognitive function. Head size increases as a function of increases in the number of cells and cell connections, which result in better cognition. For this impact evaluation, we aim to explore whether the effects of the intervention on child development occurred irrespective of the growth in head size/brain size.

The household survey also includes questions relating to feeding practices, the dietary diversity of children, and incidences of illness. These are dimensions that the NNS expected to change through their comprehensive interventions. The collection of data relating to these questions will allow the research team to assess whether the NNS interventions are affecting the treatment and control groups in relatively the same way.

IV.   Overview of Data Collection

This section opens with a description of the scope and coverage of the data collection activities. It then describes the sampling of households, including a discussion of response rates, household eligibility, and sample replacement processes. It also describes baseline data collection activities, which included collecting survey data from households, health service administrators, and service providers, as well as data on non-compliance.

A. Scope

The intervention is delivered through community clinics by service providers. Community clinics were randomly assigned to the treatment condition and represent the cluster-level unit of observation.

Households residing in the community clinic catchment area with children aged between 3 and 18 months were randomly selected and targeted during the baseline data collection period. Household survey and direct child measures were collected from both the household and the children themselves.

Data Collection Instruments: AIR, ICDDR,B, and DI worked with Save the Children, the World Bank, and the advisory board to develop the study instruments. The team developed the baseline data collection instruments, drawing from existing national and international surveys. The evaluation underwent two rigorous ethics reviews. The first review was conducted through AIR's Institutional Review Board (IRB), and the second review was conducted through the Bangladesh Medical Research Council's IRB. Both institutions approved the evaluation and baseline data collection in July 2013. The instruments contained the key list of indicators. The core indicators include child development outcomes, anthropometric measures, and parenting stimulation questions, although the final instrument contains many more relevant indicators. Where possible, indicators were measured using questions and approaches that have already been field tested in Bangladesh to ensure that they were appropriate for the local context and the target populations. We also designed the instruments to be of a manageable length in order to avoid interviewer or respondent fatigue and ensure high-quality data. The final instrument takes no more than 30 minutes to complete.

Training for the instruments took place in Dhaka between August 20 and September 30, 2013.[20] A long and intensive training of nine enumerators was conducted by Dr. Hamadani and her team from ICDDR,B to ensure that they would strictly follow the operating manuals of the Bayley test. Midway through the training, the team piloted the instruments in Dhaka and in Demsa union within Satkania upazila. The final baseline data collection included the following six instruments:

1. ***Household survey*** (administered to mothers in every eligible household): The instrument collects information about the household demographic characteristics, household socioeconomic characteristics, knowledge of techniques to stimulate child development, family stimulation behaviors, play and learning activities, child health, feeding practices, and intra-household decision making.
2. ***Anthropometric measures*** (administered to all children aged between 3 and 18 months in the study sample): We collected the height, weight, and head circumference of each child.
3. ***BSID–III test*** (administered to all children aged between 3 and 18 months in the study sample): The team administered the cognitive and language subscales of the third version of the Bayley Scales of Infant and Toddler Development. This test consists of a series of developmental play

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[20] The training included both theoretical and practical elements. The theoretical training consisted of lectures and discussions, as well as descriptions of the Bayley's manuals and test kits. Participants were divided into groups to perform the tests and observations jointly with the trainers. While a tester was administrating the Bayley test, both the trainee and a trainer recorded the observation and the scores. This approach sought to assess and correct scoring gaps between trainers and trainees. Practice sessions continued until enumerators were able to administer the tests and observe a child in the presence of a trainer. Each trainee tested and observed at least 10 children and had the opportunity to re-test the same child at the end of the training for reliability. All enumerators received certificates of completion at the end of the training.

tasks that are scored to determine the child's relative level of development compared with children in the same age cohort.

4. ***Service provider survey*** (administered to health assistants, family welfare assistants, and community health care providers operating in the selected community clinics): These service providers completed a survey that requested information about their demographic characteristics, education and training experiences, primary task and training, workload and job satisfaction. This information is intended to help evaluators identify potential program delivery issues.

5. ***Administrator survey*** (administered to district-level health personnel providing information about the inner workings of community clinics and the service providers that these personnel manage): Interviews conducted among the health administrators included: family planning officer, three upazila health and family planning officers, four assistant health inspectors, five health inspectors, one family planning inspector, and one medical technologist.

6. ***Non-compliance survey*** (administered to households that refused to participate in this study): The team collected very basic household characteristics to learn about these households.

Appendix D presents the final six instruments (with the exception of the BSID–III).[21]

B. Coverage

Bangladesh is divided into seven major administrative regions called divisions. Each division is named after the major city within its jurisdiction that serves as the administrative capital of that division. The seven divisions are: (1) Barisal, (2) Chittagong, (3) Dhaka, (4) Khulna, (5) Rajshahi, (6) Rangpur, and (7) Sylhet. The study is taking place in three of these seven divisions: Barisal (a southern district), Chittagong (a district in the southeast), and Sylhet (a district in the northeast). Within these three divisions, the study is located in three districts: Barisal (in the division of Barisal), Chittagong (in the division of Chittagong) and Moulvibazar (in the division of Sylhet). Districts are subdivided into subdistricts, or upazilas. Within these three districts, the study is located in three upazilas: Muladi (in the district of Barisal), Satkania (in the district of Chittagong), and Kalaura (in the district of Moulvibazar). Upazilas are subdivided into unions, and community clinics are located within these unions. The study is taking place in 30 unions: 4 unions in Muladi, 16 unions in Satkania, and 10 unions in Kalaura. The 78 community clinics are distributed across these 30 unions.[22]

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[21] BSID–III is not included due to copyright.

[22] Table 2 in Appendix D presents the distribution of clinics by unions and upazilas. Appendix F presents the maps of the three regions.

![AIR logo](American Institutes for Research)

The impact evaluation design only includes unions with at least two community clinics, so that at least one community clinic per union can be assigned to the intervention group and at least one can be assigned to the control group.

C. Sampling Process

Sampling of Households: The study sample frame was generated from community clinic health assistant records, which have the advantage of being the centralized government document of record containing the population frame for all households with children under five years of age. The health assistant dataset included data for all three upazilas of interest. Save the Children's Health Division arranged meetings between the impact evaluation team and health assistants (at each community clinic). These meetings provided an opportunity for the team to solicit household listings from the health assistants, as well as compiled monthly reports from the family welfare assistants. The data collection firm photocopied the relevant pages from the health assistant records and entered the information into a dataset.

Based on an examination of the extant health assistant dataset described above, the study excluded 11 unions (out of a total of 41 unions) located in these three upazilas. The dataset included information for only 35 unions because six of the unions had incomplete data.[23] We removed a further five unions from the sample because they only had one community clinic (the study design requires each union to have at least one community clinic for each of the two treatment conditions). The final sampling frame included 78 community clinics located in 30 unions.[24]

The sample frame was generated within each community clinic, and the units in the frame are households with children aged between 3 months and 18 months of age, which were situated in the selected community clinics' catchment areas during the period of the baseline data collection. The rationale for restricting the frame to households with children aged three months or older was that the main developmental assessment tool chosen for the evaluation—the BSID–III—has not been previously validated on children under the age of three months in Bangladesh. Early child development specialists consider the BSID–III test to be the gold standard assessment of development for children under 42 months of age, and it has been adapted by the team for use in Bangladesh. Because the BSID–III test is only valid for children under 42 months of age, we had to restrict the upper age limit of participating children to 18 months or younger at the time of baseline data collection in order to collect valid endline

[23] The upazila of Muladi included 6/7 unions; the upazila of Satkania included 17/17 unions; and the upazila of Kalaura included 13/17 unions.
[24] The following five unions were removed from the sample: Bhakshimoil, Bhatara, Sharifpur, Batamara, and Dhemsha.

data 24 months later. To be eligible, the household had to reside in the catchment area during the baseline data collection period (November 2013–January 2014).

Initial Sampling: Using the health assistant records, the team created a list of households with at least one child aged between 3 and 18 months during the baseline data collection period. The team used a reference date of October 21, 2013, to calculate the age (in months) of the target children, and the team will collect endline data by October 2015, when the children will still be under 42 months of age.

Finally, within each community clinic catchment area, we randomly selected 33 households with children aged between 3 months and 18 months (as of October 21, 2013). The same set of households surveyed during the baseline data collection period will be surveyed during the endline data collection period.

Replacement Sampling: Anticipating that some households would be ineligible or would refuse to participate in the study, the team developed rules for replacing ineligible or "out-of scope households" and refusal households, following the guidance of two survey methodologists from AIR. Twenty additional replacement households were randomly selected from within each community clinic and included in a separate list, with each household randomly sorted from 1 to 20. When any of the originally selected 33 households were found to be ineligible or refused to participate, the field interviewer replaced it with the first household from the 20-household replacement list. Field interviewers continued replacing households in order. A careful differentiation was made between ineligible and refusal households.

> **Ineligible or "out-of scope" households:** This category includes households that were randomly selected to be part of the sample but did not fit the target sample description of *"Households with children from 3–18 months of age that live in the selected community clinics' catchment areas during the period of the baseline data collection."* Out-of-scope households included the following cases:
>
> a) *Households that had permanently left the catchment area*. These 300 households had resided in the catchment area during birth record data collection, but by the time of the baseline data collection they had relocated to a different residence outside the catchment area. In these cases, more than one source (such as neighbors or health assistants) confirmed that the household had moved.
>
> b) *Households with incorrect location information in birth records.* In 291 cases, the selected households were not able to be located. This class of out-of-scope households includes two groups. The first group consists of the households who did not permanently reside in the catchment area of the selected community clinic, but had been registered in the health assistant record because they received services while they were visiting relatives or otherwise transiting through the community clinic's catchment area. The second group consists of households whose birth records were fabricated. This was confirmed to be the case in two community clinics, where a large number of households could not be located. (In response to this finding, the field data team met with the relevant HA, as well as representatives from Save the Children).

c) *Households with children ineligible due to inaccurate date of birth.* In 173 households, the birth records had an inaccurate date of birth for the child, and the child was not in the age range of 3–18 months old.

d) *Households with temporarily absent families*. In 159 cases, the households were located but the respondents were not available for interview because they were not in the village and were temporarily staying elsewhere (often visiting relatives).

Refusals: This category includes both households that refused to participate in the study and households that began but did not complete data collection. Thirty-nine eligible households (1.5% of the sample) did not agree to fully participate in the study. In 12 cases, the household refused to participate in any capacity. In 27 cases, the households began the household survey but later decided not to complete data collection (i.e., they did not participate in the BSID–III test or the anthropometric measures). For all 39 cases of refusal, the data collectors completed a non-complier questionnaire that captured some basic characteristics of this group to compare with the compliers.[25]

Field Sampling: In cases where the field team was unable to complete data collection with a full set of 33 households in a community, even after exhausting the 53 randomly selected households (33 households from the original sample and 20 replacement households), the study employed an additional field replacement process. A total of 454 households from among the 2,574 were sampled using this method. The field replacement process was necessary because a new random selection from the birth record was impractical; either the birth record data were inaccurate or households had relocated. In order to locate replacements, the field team visited a household neighboring the missing household.[26] If there was an eligible child in that household and that child also appeared in the master list that was collected from the health assistant, we selected that household. If this was not the case, we asked to be referred to the nearest households (within the area of the missing house) with infant children, and we repeated the process. These households were then cross-checked with the list of 53 households to avoid duplicative data collection, and the field team visited the nearest household with an infant child that most closely matched (in terms of the age range and the gender of the missing child) the random selection and neighbors' information. If the original neighbor's household contained an eligible child, the interview was performed there. If the field team was unsuccessful in locating the nearest eligible household, the process was repeated by asking neighbors of the next missing household in the sample. As noted, this process began only after the original list of 53 households in a community clinic was exhausted.

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[25] An analysis comparing compliers and non-compliers is presented in Appendix E, section E.1.

[26] After attempting to reach the original 33 households and the 20 replacement households, we went back to the first missing household on the list.

Final Results of Sampling: As noted above, the study team drew a random sample of 33 households and 20 replacement households for each community clinic, for a total of 4,134 households. The field team also drew an additional sample in the field for an additional 454 households. Altogether, the team attempted to locate 3,536 sampled households by physically visiting each one of them. They successfully located 2,613 eligible and in-scope households and completed data collection with 2,574 households. This process resulted in a number of different classes of sampled but non-completing households. Table 4 provides a breakdown of these types of households, as well as the number of completed interviews.

Table 4: Sampled Households

Activity	Muladi	Kulaura	Satkania	Total
Households that the team attempted to locate	601	1,446	1,489	3,536
Ineligible or out-of-scope households	260	405	258	923
Households that permanently left the catchment area	119	89	92	300
Households with incorrect location information in the birth records	113	128	50	291
Children were ineligible due to inaccurate date of birth	24	123	26	173
Families were temporarily not present	4	65	90	159
Refusals	11	18	10	39
Households completed initial survey but not BSID–III	7	13	7	27
Households refused to participate	4	5	3	12
Interviews fully completed	**330**	**1,023**	**1,221**	**2,574**
From original sample	167	578	843	1,588
From replacement sample	88	166	278	532
From field replacement sample	75	279	100	454

Table 5 presents the baseline survey coverage by region and instrument. It presents, by upazila, the number of household surveys, BSID–III and anthropometric measures, and refusal surveys completed.

Table 5: Baseline Survey Coverage of Households and Infants

upazila	Household	BSID–III Test/ Anthropometrics	Refusals or Non-Compliance
Muladi	330	330	11
Kalaura	1,023	1,023	18
Satkania	1,221	1,221	10
Overall	2,574	2,574	39

Targeting Process for Service Providers and Administrators

Service Providers

The study also conducted interviews with health service providers. We took advantage of the fact that Save the Children's Health Division was training service providers between August and September 2013, and we collected names and contact information for services providers during three of their major training sessions. These service providers were interviewed later when the data collectors collected the health assistant records. However, because the training sessions occurred prior to the sampling of households, the data collected from service providers do not perfectly overlap with the final sample.

At a minimum, we expected to collect one survey from each of the three different types of service provider (i.e., a minimum of 234 surveys for 78 community clinics).[27] Instead, we collected data from 190 of the service providers who worked in the selected community clinics. We have no data for two of the 78 community clinics. The sample of service providers was smaller than expected because not all service providers attended the Save the Children Health Division training and some were later transferred to different community clinics. We also collected 65 other surveys from service providers who work either in community clinics outside of the sample or at the respective upazila health complex.

Table 6: Baseline Survey Coverage of Service Providers

Upazila	Clinics in the Study	Clinics With Data	Total Interviews	Service Providers in the Sample
Muladi	10	10	50	33
Kalaura	31	31	128	91
Satkania	37	35	77	66
Overall	78	76	255	190

Administrators

Finally, the field data collection team conducted interviews with upazila and union-level administrators in the health system. These interviews were designed to gather information about the role of each health administrator in relation to the community clinic. The field team visited each of the three upazilas' health complexes and asked for the administrators who directly supervised the community

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[27] However, in some larger community clinics, it is possible to find more than one FWA and HA.

clinic-level FWAs and HAs. If the original respondent was not in direct contact with the community clinic service providers, the data collector asked to be referred to upazila-level personnel for the interview. In total, 15 interviews were completed—five from each upazila.

Table 7: Baseline Coverage of Administrators

Upazila	Administrator
Muladi	5
Kalaura	5
Satkania	5
Overall	15

D. Data Collection

Pilot Study: The team conducted two rounds of pilot testing in order to check the data collection process, protocols, and instruments. Both the household and the BSID–III Scale Test questionnaires were fully administered to a small number of households (outside of the study sample) in the Dhamrai upazila of the Dhaka district and in the Satkania upazila of the Chittagong district. The pilot tests helped the team identify and address potential challenges. The pilot also gave the data collectors the opportunity to practice the procedures and become more confident in administering the instruments.

The results from the pilot led to revised procedures for administering the BSID–III and anthropometric measures for the full baseline data collection. The study team initially planned to collect the BSID–III and anthropometric measures from children in their own homes. However, data collectors encountered several problems with home testing during the pilot. Homes were found to lack sufficient light and space to properly conduct the tests, and crowding in the homes and the presence of strangers created distractions for the children and inhibited administration of the test. Additionally, the lack of furniture (such as tables) meant that tools could not be kept out of children's sight. As a result, the child under assessment often noticed other toys and asked to play with them before they had finished the task at hand.

The study's early childhood expert, Dr. Hamadani, indicated that conditions in the homes would prevent the collection of an accurate and reliable BSID–III score because it would be impossible to follow the instructions and rules required for BSID–III testing. The alternative to testing children in their own home was to find a centralized location with sufficient light and furniture to perform the Bayley testing, as Dr. Hamadani has done in other research studies. The team discussed the advantages and disadvantages of administering the BSID–III in the home and evaluated whether testing at a centralized location would be more advantageous. The advantages and disadvantages are described below.

Advantages of testing at home:

1.   Mothers would not need to leave the house, meaning that the household survey and the Bayley testing could be completed during the same visit.

Advantages of testing at a centralized location:

1. The location of administration would be more standardized, resulting in more reliable, valid, and comparable results.
2. Fewer test kits would be required.
3. Fewer testers would be required, making training less time consuming and more reliable, and reducing inter-observer differences.
4. Testers would not have to carry the heavy assessment materials to homes.
5. Testers would not need to travel for long distances and waste time or become tired, meaning that they could use more time and energy testing more children at the centers.
6. Mothers would not need to stop the test and perform household chores.
7. Children would not be distracted by the crowd and noises in the house.
8. If a child fell asleep, the tester could move on to test another child, saving time.
9. Voluntary presence shows mothers' commitment to child health development and related matters.

After consulting with the advisory group, the team decided that testing at the community clinic and at satellite clinics was the most appropriate solution in order to collect reliable BSID–III assessment data, because most households were too small and too poorly lit to adequately administer the assessment with fidelity to the required procedures.

Baseline Data Collection: Baseline data were collected after the sampling of households but prior to the random assignment of program status in order to minimize the potential for anticipation effects that could affect baseline values for variables of interest.

Data collection commenced in Muladi and Kalaura on October 30, 2013, and in Satkania on November 29, 2013. Data collection concluded on January 16, 2014, which was slightly later than anticipated because of the national political situation in Bangladesh. During the data collection period, the country experienced a tense and disruptive political climate, with sporadic violence and vandalism across the country. Vehicular movements were restricted, and when available they were charged much higher than normal fares. Completing the survey work in this climate took longer and required additional effort. The data collection team had to work during the holidays to meet the data collection deadline.

Baseline data collection was successful thanks to the dedication of the field staff and engagement with the community and health service providers. The data collection team reported successful completion of 2,574 household surveys, anthropometric measures, and the BSID–III Scales of Infant Development from the three widely dispersed study areas. This is the full sample necessary to provide the study with adequate statistical power. All 78 community clinics in 30 unions participated in the data collection. Even in the small number of cases where households refused to participate in the evaluation, data

collectors completed the non-compliance survey to allow some statistical comparisons between study participants and non-compliers.

Data were also collected from 190 health service providers and 15 health administrators from the three selected upazilas. These survey data provide context for the evaluation, including how the program's theory of change works in practice.

Data Collection Mode: Data collection took place face to face in the field, using highly scripted surveys. Collectors first located infants in the randomly selected sample by visiting the residential addresses provided by health assistants. After locating each family, the field staff administered the household interview. After completing the survey, the mother was requested to visit her assigned community clinic at her earliest convenience—preferably the following day—so that the BSID–III test could be administered to her child.

Data Collectors: Data International conducted field operations with oversight from its Dhaka office and with supervision in the field. There was at least one field supervisor in each upazila to lead activities and maintain constant contact with the field manager and Data International's head office in Dhaka. During data collection, the field supervisor conducted spot checks of completed questionnaires from each enumerator working under his or her supervision at least once. At the end of each day's fieldwork, the field supervisor reviewed and edited the survey questionnaires. While enumerators completed the study's surveys, ICDDR,B experts trained different testers to administer the BSID–III test to infants.

Supervision: The study employed multiple layers of supervision and quality control. At the most local level, Data International field supervisors directly observed the progress of the data collectors. Data International senior staff also monitored data collection closely. Both Dr. Minhaj Mahmud and three trained supervisors from ICDDR,B performed spot checks of baseline data collection and observed the administration of the BSID–III.[28] AIR home office staff reviewed weekly reports from the field and maintained close communication with the field staff, which was critical to troubleshooting challenges that arose in the field and ensuring the collection of complete and high-quality data.

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[28] The ICDDR,B supervisors followed the quality control procedures that are part of the organization's standard protocol. They reported their findings to the team and discussed them with the testers at the end of each test, correcting any mistakes that appeared. ICDDR,B supervisors noted that the quality of the testing was high, overall. They found that the testers' skills and manners were highly appropriate for the test, and that the testing environment was conducive to the test.

V.   Baseline Results and Validation of the Impact Evaluation Design

The primary purpose of the baseline data collection is to measure the starting point for everyone in the sample and ensure that the treatment and control conditions are balanced before the start of the intervention. This section reports the mean differences at baseline for primary outcomes and key background variables between the treatment group and the control group, captured through the household and service provider surveys. We also describe the sample for the study, breaking it down into four categories: child characteristics, household demographics and socioeconomic status, and maternal depression. In principle, the randomization of community clinics within each union should lead to a balance of outcome and control indicators between the two conditions, but this may not always happen. For this reason, we measured each group at the baseline and tested for differences to determine whether randomization had in fact produced balanced research groups. The randomization process appears to have been successful in terms of creating equivalent groups at baseline, because the mean characteristics of groups were balanced between the treatment and control conditions.

The evaluation team tested three types of outcome measures and more than fifty background variables for statistical differences between the two groups.[29] We used OLS regression (for continuous variables) and Probit regression (for binary variables) with cluster robust standard errors to account for the nested nature of the data (where households are clustered within community clinics). Differences between the treatment group and the control group were statistically significantly for four of the indicators. In these four cases, the difference was less than 0.25 standard deviations. Finding four significant differences among more than fifty tests is to be expected even if randomization is successful.

The first part of this section (part A) describes the overall results for the validation tables for the key outcome measures. The second part (part B) describes the sample at baseline, providing a snapshot of the child and family demographics and socioeconomic characteristics. We describe the entire sample because the treatment and control groups were statistically equivalent at baseline. In Part C we also describe the characteristics of the service providers and administrators. Finally, Part D presents a comparative analysis of compliers and non-compliers (or refusals).

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[29] The definitions of all indicators created from the original instruments and presented in the following table are introduced in Appendix F.

A. Baseline Equivalence on Key Outcome Measures

The following tables focus on indicators from the baseline survey. The tables show the mean and sample size for the treatment group and the control group, as well as the differences in mean between the two groups. The tables also include the standard error, *p*-value, and effect size of this difference.

Child Development and Anthropometric Outcomes: Tables 8 and 9 present the results for the final outcome measures collected directly from each child. Table 8 presents the child development results as measured by Bayley–III. This table shows the scaled scores (which present a child's performance relative to his or her peers of the same age)[30] and the composite scores (which are a transformation of a distribution of scores with a given mean and standard deviation).[31] The descriptive statistics of the Bayley results are useful for demonstrating that the starting points for the cognitive and language domains were equivalent in the treatment and control conditions. The mean (standard deviation) of the Bayley composite scores was 100 (SD=15), meaning that the scores of Bangladeshi children fell within the normal range of the general population for which the test was developed. This was also observed in other Bangladeshi studies where Bayley–III was used (Jiang et al., 2014; Hamadani et al., personal communication).

Table 9 presents the child's anthropometric measures. This table reveals that overall rates of wasting, stunting, and being underweight for sampled children aged between 3 months and 18 months were 7%, 28%, and 19%. Comparison with the analytical sample of the Bangladesh Demographic and Health Survey (BDHS) indicated that the overall rates of wasting and being underweight were slightly lower in our sample than in the BDHS (which are approximately 15% and 24%). However, the percentage of stunting or chronic malnutrition in our sample was almost the same as the BDHS analytical sample—28% and 29%, respectively (BDHS, 2001 dataset).[32] There was no significant difference on any of the anthropometric variables between the intervention and control groups at the baseline. The prevalence of undernutrition, wasting, and stunting was similar between the two groups.

Stimulation Behavior and Parenting Stimulation Knowledge

Tables 10–12 present the results for the short modified HOME inventory and the family care indicators. The Modified Short HOME Inventory table presents the results for the 10 individual questions that

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[30] The scaled scores are derived from the raw scores and are scaled to a metric with a range of 1 to 19, a mean of 10, and standard deviation of 3.

[31] The composite scores are derived from the scale scores and are scaled to a metric with a range of 40 to 160, a mean of 100, and a standard deviation of 15.

[32] The research team calculated these percentages directly from the Bangladesh Demographic and Health Survey 2011 dataset.

collected data on aspects such as whether the caregiver promotes child development, how the families organize physical and temporal environment at home, and the opportunities for variety in daily stimulation. In the table, we present the percentages of mothers who answered "yes" to these questions. The results show that small percentages of families take their children outside the house (around 33% for both groups), receive relatives at home (35% and 42% in the control and treatment groups, respectively), or take the child to visit friends (around 18%). Around 47% of the families indicated that they do not have a specific place in the house to keep the child's toys. Overall, no differences were found in the modified short HOME inventory questions, except that more mothers in the treatment group reported receiving any relatives at their home or taking the child to their relatives' homes than in the control group (p=0.039).

In the household questionnaire, we also included measures obtained from the Family Care Indicators instrument to learn about the variety of play materials that the child used at home. We asked about things that the child plays with when he or she is at home. We indicated to the mothers that the toys may be home-made (like clay toys, dolls made of cloths, etc.), household materials (like pots and pans), bought toys, or children's books or picture books (that could be bought/received from school or someone free of charge). Table 11 summarizes the results for these questions. Children in both the control and the treatment group had similar numbers of play materials and there was no significant difference between the groups. However, the mean number of play materials used by the children was very low and equal to 1.3 toys.[33]

Another indicator derived from the FCI indicator collects data on play activities. We asked whether, in the past three days, the mother or any household member (over 15 years of age) had engaged in any play and learning activities with the child. These results are presented in Table 12. The overall results show that a low proportion of parents reported engaging in any play and learning activities with their children. For example, only 15% of parents in our sample reported reading books to their child. Similarly, only 18% of parents reported spending time with their child naming, counting, or drawing things.

Finally, Table 13 presents the results for the items capturing parenting stimulation knowledge. This table shows the percentage of sample members who agreed with the various statements about stimulation presented to them. These questions capture knowledge of stimulation practices in order to learn what mothers believed to be appropriate caretaking practices before receiving program messages. In general, the results in this table show that mothers appeared to have a good understanding of the basic

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[33] The reference period for this question was set to "the last 30 days" based on Dr. Jena Hamadani's experience. She found in previous studies that although mothers reported having some toys earlier, the toys were sometimes broken or unavailable at the time of surveying. For this reason, Hamadani found important to add a reference point of the last 30 days to see if the child had played with those toys during that period.

principles of stimulation. For example, about 23% agreed with the statement that "*a baby should not be held when he (she) is crying*"; only 6% agreed with the statement that "*babies do some things just to make trouble for their parents*"; and around 98% agreed with the statement that "*talking to a child about things he (she) is doing helps its mental development.*" One area where there is clearly room for improvement, however, concerns the role of the fathers. A large proportion of respondents agreed with the statement that *"Fathers are naturally clumsy when it comes to taking care of babies"*—84% and 77% in the control and treatment groups, respectively. This difference is statistically significant.

Table 8: Child Development Outcomes: Bayley's Cognitive and Language Results by Treatment Condition

Outcome Measure	Control		Treatment		T-C Diff	Diff SE	Diff p-value	Diff ES
	Mean	N1	Mean	N2				
Cognitive (scale score)	9.808	1,287	9.894	1,287	0.085	0.298	0.775	0.029
Receptive communication (SS)	8.950	1,287	9.053	1,287	0.103	0.277	0.713	0.033
Expressive communication (SS)	9.667	1,287	9.615	1,287	-0.052	0.271	0.848	-0.016
Cognitive (composite score)	99.040	1,287	99.468	1,287	0.427	1.488	0.775	0.029
Language (composite score)	96.135	1,287	96.312	1,287	0.176	1.518	0.908	0.011

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact.

Table 9: Child Anthropometric Results by Treatment Condition

Variables	Control Mean	N1	Treatment Mean	N2	T-C Diff	Diff SE	Diff p-value	Diff ES
Age in months	11.713	1,287	11.435	1,287	-0.277	0.328	0.400	-0.072
Height (cm)	70.871	1,286	70.170	1,284	-0.701	0.359	0.055	-0.134
Weight (kg)	8.255	1,287	8.163	1,287	-0.091	0.076	0.236	-0.064
Head circumference (cm)	43.378	1,287	43.197	1,287	-0.181	0.129	0.163	-0.094
Gender (Female)	0.486	1,287	0.479	1,287	-0.006	0.021	0.767	-0.012
Weight for height (*z*-score)	-0.363	1,275	-0.320	1,266	0.043	0.064	0.501	0.034
Height for age (*z*-score)	-1.294	1,281	-1.412	1,276	-0.117	0.064	0.070	-0.096
Weight for age (*z*-score)	-0.959	1,286	-0.990	1,287	-0.031	0.061	0.614	-0.025
Head circumference for age (*z*-score)	-1.306	1,285	-1.362	1,284	-0.056	0.081	0.493	-0.052
Percent wasted	0.072	1,275	0.063	1,266	-0.009	0.010	0.389	-0.036
Percent stunted	0.262	1,281	0.297	1,276	0.035	0.023	0.139	0.077
Percent underweight	0.191	1,286	0.195	1,287	0.005	0.017	0.788	0.011

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; and "ES" is the effect size of the estimated impact.

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Table 10: Modified Short Home Observation for Measurement of the Environment Inventory

Variables	Control Mean	N1	Treatment Mean	N2	T-C Diff	Diff SE	Diff p-value	Diff ES
Do you talk to your child while doing housework? What do you say to him/her?	0.745	1,286	0.729	1,286	-0.016	0.034	0.650	-0.035
Do you believe the child's behavior can be changed/ modified by the parents' behavior	0.976	1,286	0.975	1,286	-0.001	0.009	0.930	-0.005
Who usually looks after the child when the mother is not around? Always the same person	0.708	1,286	0.713	1,285	0.005	0.034	0.876	0.012
A person under 12 years of age sometimes looks after the baby	0.828	1,286	0.841	1,285	0.013	0.023	0.560	0.035
Once a week someone usually take the child to any store	0.333	1,284	0.324	1,285	-0.009	0.028	0.753	-0.019
Take the child regularly to the health clinic to be weighed or immunized	0.933	1,287	0.932	1,286	-0.002	0.015	0.916	-0.006
The child has a special specific place to keep his/her toys	0.474	1,286	0.471	1,285	-0.003	0.039	0.944	-0.005
In the last 12 months, the family did not move (or moved once) from their residing location or house	0.978	1,286	0.965	1,286	-0.013	0.009	0.132	-0.080
Twice a month or more the family receive any relatives at their home or take your child to their homes	0.348	1,286	0.421	1,286	0.072	0.034	**0.036**	0.149
Twice a month or more the family's friends come to their house	0.163	1,286	0.192	1,285	0.030	0.034	0.376	0.078
HOME inventory scale (0-10)[34]	6.481	1,277	6.564	1,281	0.083	0.114	0.471	0.055

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points.

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[34] The Cronbach's alpha coefficient for this measure was 0.339. Because the reliability of this measure is low, we plan to do some additional measure development work to improve it before it will be used as a real outcome measure.

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Table 11: Variety of Play Materials

Variables	Control Mean	N1	Treatment Mean	N2	T-C Diff	Diff SE	Diff p-value	Diff ES
Has the child...								
Played with toys that make or play music?	0.117	1,287	0.107	1,286	-0.009	0.026	0.726	-0.029
Played with materials for drawing and writing?	0.205	1,287	0.185	1,286	-0.020	0.029	0.488	-0.051
Played with toys or objects (e.g. such as dolls, tea-set/cups, toy kitchen set, etc.)?	0.176	1,287	0.205	1,286	0.029	0.037	0.430	0.074
Played with toys that encourage movement (e.g., balls, small car, skipping rope, etc.)	0.498	1,286	0.508	1,286	0.009	0.039	0.811	0.019
Have one or more picture books in the home that are suitable for the child	0.306	1,287	0.281	1,287	-0.025	0.040	0.530	-0.055
Play materials scale (0-5)[35]	1.303	1,286	1.287	1,286	-0.016	0.101	0.872	-0.014

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points except for the play materials scale.

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[35] The Cronbach's alpha coefficient for play materials was 0.507.

Table 12: Play and Learning Activities

Variables	Control		Treatment		T-C Diff	Diff SE	Diff p-value	Diff ES
	Mean	N1	Mean	N2				
Any adult household member has read books to the child	0.164	1,287	0.139	1,286	-0.025	0.023	0.288	-0.069
Any adult household member has told stories or nursery rhymes to the child	0.375	1,287	0.399	1,286	0.024	0.051	0.633	0.050
Any adult household member has sung songs to the child	0.331	1,287	0.321	1,285	-0.010	0.038	0.787	-0.022
Any adult household member has played with toys with the child	0.554	1,287	0.572	1,286	0.018	0.046	0.689	0.037
Any adult household member has spent time naming, counting, and/or drawing things	0.166	1,287	0.199	1,286	0.033	0.034	0.326	0.085
Play and Learning Scale (0-5)[36]	1.590	1,287	1.631	1,285	0.041	0.145	0.776	0.029

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; and "ES" is the effect size of the estimated impact. All values are in decimal points except for the scale.

Table 13: Stimulation Knowledge: Percentage of Mothers Agreeing With the Following Statements

Variables	Control		Treatment		T-C Diff	Diff SE	Diff p-value	Diff ES
	Mean	N1	Mean	N2				
A baby should not be held when he (she) is crying	0.228	1,284	0.232	1,276	0.004	0.038	0.921	0.009
Babies do some things just to make trouble for their parents, like crying, pooping	0.064	1,281	0.067	1,279	0.003	0.016	0.842	0.013
Infants understand only words they can say	0.361	1,137	0.328	1,160	-0.033	0.045	0.464	-0.069
It is important to talk and sing to your baby	0.981	1,248	0.974	1,254	-0.006	0.009	0.473	-0.042
Talking to a child about things he (she) is doing helps its mental development	0.984	1,253	0.974	1,254	-0.010	0.008	0.220	-0.067
Fathers are naturally clumsy when it comes to taking care of babies	0.843	1,253	0.773	1,263	-0.070	0.031	**0.023**	-0.178
Stimulation knowledge scale (0–8)[37]	6.408	1,081	6.485	1,112	0.077	0.083	0.360	0.081

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; and "ES" is the effect size of the estimated impact. All values are in decimal points.

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[36] The Cronbach's alpha coefficient for the play and learning scale was 0.642 when the scale consolidated mother, father, and any other household member over 15 years old.

[37] The Cronbach's alpha coefficient for this measure was 0.385. Because the reliability of this measure is low, we plan to do some additional measure development work to improve it before it is used as a real outcome measure.

B. Description of the Children and Households in the Sample

This section describes the sample at baseline, providing a snapshot of the child, family demographics, and socioeconomic characteristics of the study sample. We describe the entire sample because the treatment and control groups were statistically equivalent at baseline. However, for transparency purposes, all tables present the results for the treatment and control groups separately.[38]

Child Characteristics: Since the outcomes of interests are sensitive to the child's age, it is important to describe the distribution of age in the sample. The average age of the children in the sample was 11.6 months. Children aged between three and six months made up less than 13% of the sample. Overall, the distribution of children in each age category was homogeneous, with slightly fewer children at the tail ends of the age distribution. Figure 2 presents the distribution of age for the entire sample.

Figure 2. Age Distribution for the Children in the Sample
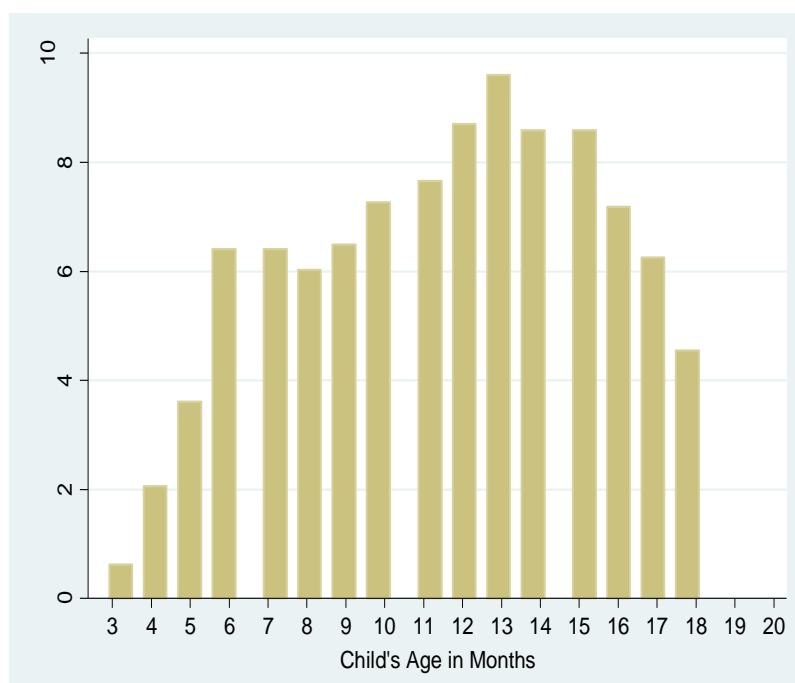
We also explored the distribution of age by gender, and we found that the girls in the sample were slightly older than the boys (11.64 and 11.49 for girls and boys, respectively). We also explored whether

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[38] All these tables are presented in Appendix E, section E.2.

the Bayley results showed any difference by gender. The results for the entire sample are reported in Figure 3. The distributions for both tests were almost identical for females and males.

Figure 3. Bayley–III Cognitive and Language Distribution by Gender
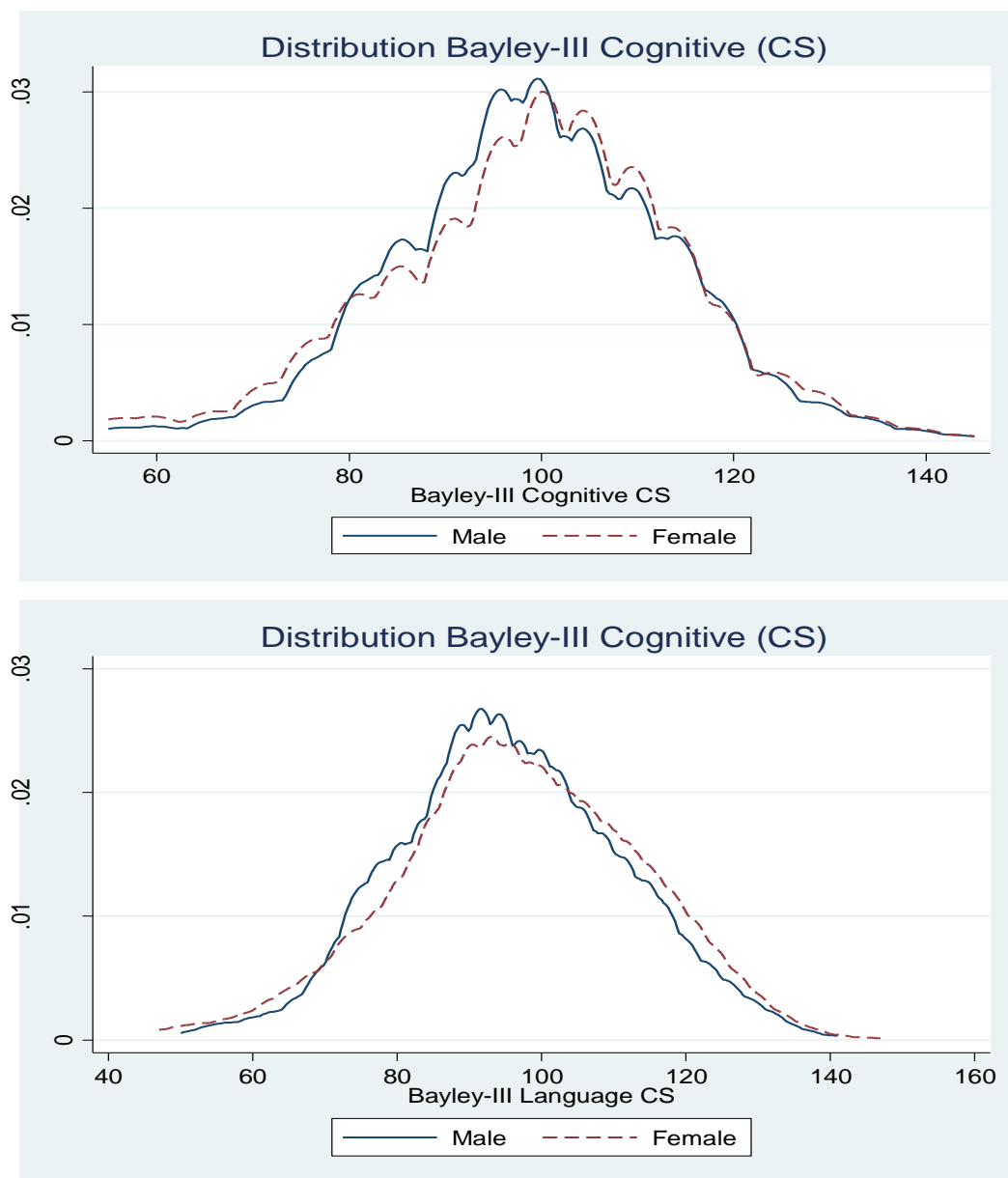
Figure 1 in Appendix E, presents the distribution of the three anthropometric measures by gender.

Family Demographics and Socioeconomic Characteristics: Tables 14 and 15 present the demographic and socioeconomic characteristics of the households in the sample. Only 17% of the households were single parent households. In 40% of these households, the mother-in-law—who is known to play an influential role in Bangladeshi households—lived with the sampled families. The average household had six members, and the average number of members per sleeping room was 2.8. In terms of religion, about 87% of the households described themselves as Muslim.

Mothers were, on average, 26 years old, with 6.5 years of education. By contrast, fathers averaged 5.4 years of education.[39] In terms of employment, 99% of the fathers reported being employed, while only 6% of the mothers reported being employed. We also asked mothers another set of questions to capture whether they did any job for which they were paid (either in cash or in kind). The results for the two questions aligned: About 93% of the mothers do not work for cash or in-kind payment.

In terms of housing characteristics, 34% had houses with finished walls made of cement or brick, 24% had finished floors of concrete, and 14% had finished concrete roofs. Fuel for cooking is one measure of economic well-being, and 98% of the households in the sample reported using very poor fuel for cooking (wood, charcoal, straw, shrubs, grass, or animal dung). Sewage is another measure of economic well-being, and 91% of the households reported having their own latrine. However, when we asked about the characteristics of that latrine, only 51% reported having an "improved" latrine or a latrine with ring-slab/offset latrine (waterseal), pit latrine (covered), or septic latrine. Finally, in 96% of the cases, the household had a piped water source (tube well, shallow tube well, or tap water supplied through pipes).

In terms of assets, the majority of the households lacked most of the assets listed in the survey, although the majority reported having electricity or a solar panel (70%), cellphones (90%), and an electric fan (60%). At the end of Table 15, we present a wealth index. This index is a shortened version of the Bangladesh Demographic and Health Survey Wealth Index, which was revised by the authors to make it more appropriate to the current evaluation's context in rural Bangladesh.[40] The index is a composite of several measures of household wealth, including assets possessed by the household,

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[39] This discrepancy in education is consistent with results from the Report of the Household Income and Expenditure Survey (2010), which shows that, at the national level, 21% of females and 19% of males have completed primary schooling. The gender difference in completing primary school is much higher in rural areas: 20.24% for females as opposed to 18.74% for males. In Bangladesh, female school enrollment has increased substantially in recent years as a result of many targeted female schooling programs/stipends. However, males complete secondary education at higher rates. Drop outs in rural areas might occur due to early marriage or other family constraints.

[40] http://dhsprogram.com/pubs/pdf/CR6/CR6.pdf

household members per sleeping room, drinking water supplies, toilet facilities, home building materials, sources of cooking fuel, and land area. The index ranges from -3.16 to 1.42.

Because the intra-household decision-making process could influence how effective the program is (mothers who have the freedom to influence decisions within the household could also be more likely to make changes that align with the program's messages), we also asked several questions in the household survey to investigate who made decisions within the household. We asked questions about food (what food to prepare every day and how much money the household spends on food), money (buying important things for the family and who decides how earnings will be spent), and health (what to do when a child is seriously sick). In Table 16, we present the results for mothers and mothers-in-law separately to document the number of cases where women make important decisions at home (women empowerment). Our results suggest that mothers have some influence when it comes to making important decisions that affect their child's well-being. Most of the mothers indicated that they made decisions about food preparation (around 80%), and a large proportion indicated that they made decisions about child care during illness (about 60%). Our results also suggest that mothers-in-law do not seem to be influential when making some of the decisions listed in the survey. However, these results should be interpreted carefully as it is plausible that the influence of mothers-in-law is channeled through the fathers.

Finally, we present the results for the maternal depression scale included in the household survey (Table 17). We asked mothers six questions to determine whether they showed signs of depression. The range of scores could be from 0 to 42 hence a mean of 7 days shows that mothers were not depressed.

Table 14: Household-Level Demographics and Socio-economic Status

Variables	Control		Treatment		T-C Diff	Diff SE	Diff p-value	Diff ES
	Mean	N1	Mean	N2				
Single parent household	0.172	1,287	0.169	1,287	-0.002	0.021	0.914	-0.006
Percent with mother-in-law in the household	0.412	1,287	0.436	1,287	0.024	0.025	0.328	0.049
Percent Muslim	0.870	1,287	0.849	1,287	-0.021	0.037	0.568	-0.060
Mother education (years)	6.556	1,285	6.660	1,286	0.105	0.256	0.684	0.032
Father education (years)	5.419	1,066	5.367	1,070	-0.052	0.287	0.857	-0.014
Father employed	0.991	1,066	0.987	1,070	-0.004	0.005	0.435	-0.035
Mother married	0.988	1,286	0.985	1,286	-0.003	0.005	0.516	-0.027
Mother employed	0.051	1,284	0.059	1,283	0.009	0.015	0.567	0.038
Mother works at home	0.931	1,284	0.932	1,283	0.001	0.016	0.964	0.003
Mother age (years)	25.827	1,284	25.610	1,285	-0.217	0.198	0.276	-0.040
Household size (persons)	5.951	1,287	6.028	1,287	0.077	0.135	0.570	0.032

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community level; and "ES" is the effect size of the estimated impact. All values are in decimal points except where indicated. There is some missing data on fathers' education due to three cases who did not report formal education and 435 who are single parent households.

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Table 15: Housing Characteristics, Assets, and the Wealth Index

Variables	Control Mean	N1	Treatment Mean	N2	T-C Diff	Diff SE	Diff p-value	Diff ES
Housing Characteristics								
Finished wall (cement/brick versus other)	0.354	1,287	0.335	1,286	-0.018	0.035	0.602	-0.039
Finished floor (cement/concrete versus other)	0.257	1,287	0.229	1,286	-0.028	0.029	0.344	-0.065
Finished roof (cement/concrete versus other)	0.136	1,287	0.147	1,287	0.011	0.028	0.699	0.031
Fuel used for cooking clean (electricity or gas)	0.011	1,287	0.004	1,287	-0.007	0.009	0.348	-0.082
Fuel used for cooking poor (LPG or Kerosene)	0.013	1,287	0.003	1,287	-0.010	0.005	**0.026**	-0.112
Fuel used for cooking very poor (wood, charcoal, straw, shrubs, grass, or animal dung)	0.976	1,287	0.993	1,287	0.017	0.010	**0.050**	0.138
Latrine type "improved" (ring-slab/offset latrine, pit latrine, or septic latrine)	0.515	1,287	0.518	1,287	0.003	0.045	0.945	0.006
Household has own latrine	0.907	1,277	0.926	1,271	0.019	0.015	0.206	0.069
Piped water source (tube well, shallow tube well, or tap water supplied through pipes)	0.948	1,286	0.970	1,287	0.022	0.026	0.366	0.110
Members per sleeping room	2.769	1,284	2.755	1,279	-0.014	0.081	0.860	-0.011
Housing Assets. Does any member of this household own…?								
Auto bike	0.023	1,287	0.024	1,286	0.002	0.005	0.757	0.010
Rickshaw	0.021	1,287	0.037	1,287	0.016	0.009	0.076	0.093
Bicycle	0.138	1,287	0.136	1,287	-0.002	0.022	0.944	-0.005
Motorcycle/scooter	0.095	1,287	0.071	1,287	-0.023	0.013	0.081	-0.084
Electricity/solar panel	0.700	1,287	0.678	1,287	-0.022	0.035	0.537	-0.047
Radio	0.064	1,287	0.076	1,287	0.012	0.015	0.426	0.046
Television	0.389	1,287	0.373	1,286	-0.015	0.037	0.678	-0.031
Mobile/non-mobile phone	0.894	1,287	0.899	1,287	0.005	0.016	0.776	0.015
Refrigerator	0.219	1,287	0.201	1,287	-0.018	0.032	0.572	-0.044
Almirah/wardrobe	0.657	1,287	0.622	1,287	-0.035	0.035	0.314	-0.073
Table	0.790	1,287	0.780	1,287	-0.010	0.027	0.707	-0.025
Chair	0.830	1,287	0.819	1,286	-0.011	0.024	0.641	-0.029
Electric fan	0.596	1,287	0.572	1,287	-0.024	0.048	0.615	-0.049
DVD/VCR	0.084	1,286	0.101	1,287	0.017	0.017	0.327	0.059
Water pump	0.104	1,283	0.079	1,284	-0.026	0.020	0.204	-0.089
Wealth Index (scale)	-0.014	1,272	0.014	1,261	0.028	0.084	0.736	0.028

 Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact.

Table 16: Mothers' Labor Force Participation and Intra-Household Decisions

Variables	Control Mean	N1	Treatment Mean	N2	T-C Diff	Diff SE	Diff p-value	Diff ES
Mother has completed work for money (past week)	0.063	1,287	0.066	1,287	0.003	0.015	0.840	0.013
Mother makes decisions on:								
Food preparation	0.802	1,287	0.788	1,286	-0.014	0.023	0.536	-0.035
Food spending	0.220	1,287	0.245	1,286	0.025	0.032	0.434	0.059
Buying important things for the family	0.373	1,287	0.340	1,286	-0.033	0.036	0.357	-0.069
How her earnings are spent	0.205	1,287	0.224	1,285	0.019	0.033	0.566	0.046
Child care during illness	0.601	1,287	0.638	1,285	0.037	0.045	0.413	0.076
Mother-in-law makes decisions on:								
Food preparation	0.145	1,287	0.163	1,286	0.018	0.017	0.292	0.050
Food spending	0.054	1,287	0.057	1,286	0.002	0.012	0.839	0.010
Buying important things for the family	0.073	1,287	0.075	1,286	0.002	0.013	0.905	0.006
How respondent's earnings are spent	0.044	1,287	0.048	1,285	0.004	0.010	0.688	0.019
Child care during illness	0.046	1,287	0.043	1,285	-0.003	0.011	0.787	-0.015

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points except where indicated.

Table 17: Maternal Depression

Variables	Control Mean	N1	Treatment Mean	N2	T-C Diff	Diff SE	Diff p-value	Diff ES
Last week, number of days the mother…								
Felt sad	1.435	1,287	1.463	1,284	0.028	0.097	0.773	0.017
Felt lonely	1.028	1,280	0.942	1,284	-0.087	0.104	0.406	-0.061
Felt like crying	0.562	1,284	0.503	1,281	-0.060	0.053	0.267	-0.057
Felt that she enjoyed life	5.399	1,287	5.549	1,285	0.150	0.130	0.252	0.087
Felt depressed	1.202	1,286	1.132	1,285	-0.071	0.087	0.419	-0.051
Did not feel interest or pleasure in doing things	1.529	1,284	1.424	1,285	-0.105	0.105	0.320	-0.068
Scale of depression (0–42)[41]	7.367	1,275	6.909	1,280	-0.458	0.467	0.331	-0.068

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact.

C. Description of Service Providers and Administrators

Service Providers: The service providers working within community clinics are the main delivery mechanism for this intervention. Within a community clinic, there is one community health care provider (CHCP), at least one health assistant (HA), and at least one family welfare assistant (FWA). During the baseline data collection period, 190 service providers were surveyed. These service providers included CHCPs (N =56), FWAs (N=64), and HAs (N=70). Eighty-nine service providers were interviewed in the treatment group, and 101 were interviewed in the control group.

The randomization of community clinics to treatment and control conditions means that the service providers' characteristics should be similar between treatment and control groups. Tables 7–20 in Appendix E present the results of a comparison of the service providers' characteristics in several dimensions: demographics, education, and working experience; description of their primary task and trainings received; workload differentiated between "assigned" workload and "actual" workload; and the main reasons why they usually cannot visit their assigned households. We present the results of the survey for the entire sample and by the type of service providers because the nature of many of these questions varies according to the service providers' position.

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[41] The Cronbach's alpha coefficient for the depression measure was 0.86.

Overall, the vast majority of the service providers were female (74%), Muslim (70%), and had received secondary education (64%). On average, service providers were 35 years old with 13 years of work experience, and 10 years of work experience in the same union. Family welfare assistants' primary tasks were family planning (100%); looking after the well-being of pregnant women and children under the age of three (97%); and providing health services to children under the age of five (64%). Health assistants' primary tasks were looking after the well-being of pregnant women and children under the age of three (91%); providing health services to children under the age of five (70%); and taking care of immunizations (83%). CHCPs' primary tasks were looking after the well-being of pregnant mothers and children under the age of three; providing health services to children under the age of five; and taking care of diarrhoea and fever problems.

In the survey, we also asked service providers about their "assigned" workload and their "actual" workload. These results are presented in Appendix E, in Tables 17 and 18 and Figures 2 and 3. On average, FWAs reported visiting 430 households in the last month, and visiting (on average) 36 households on their last day of work. They reported working 5.7 days per week, and approximately seven hours per day. Figure 1 (in Appendix E) depicts the distribution of households visited in their last visit. In response to the same question, HAs reported visiting (on average) approximately 1090 households in the last month, and visiting 69 households on their last day of work. On average, HAs reported working six days a week, and seven hours each day. Based on these self-reported data, health assistants seem to have a larger workload than family welfare assistants.

When explaining why they usually cannot visit all their assigned households, 34% of FWAs in the control group and 72% of FWAs in the treatment group indicated the following: "I have more households than I can handle." This difference is statistically significant.[42] FWAs reported having other responsibilities in satellite clinics as the main reason for not visiting all their households, while HAs reported having other responsibilities in the EPI center as the main reason for not visiting all their assigned households.

Administrators: Tables 21–30 of Appendix E present the results of a comparison of the characteristics of the administrators. To gain a better understanding of how community clinics operate, how decisions are made in these regions, and which government officials play a role in the operation of community clinics, we developed an interview protocol for administrators. Several of the questions included in this protocol were semi-structured or open in order to allow the respondent to provide additional details. The research team expects to collect more information on the roles of different administrators who influence how community clinics operate. These data, along with the monitoring data, are expected to provide the research team with an understanding of the different factors that could affect the implementation of the stimulation program. We collected data from 15 administrators (5 from each

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[42] Note that despite this statistically significant difference between the treatment and the control groups, the data do not show large differences between the two groups in terms of workload.

region). Through the interview instrument, we aimed to identify the roles and responsibilities that relate to the operation of the community clinics. We interviewed one upazila family planning officer, three upazila health and family planning officers, four assistant health inspectors, five health inspectors, one family planning inspector, and one medical technologist.

The upazila health and family planning officers (UHFPO) operate at the upazila level. They are responsible for implementing, administering, and managing health programs at the upazila level, and for managing their respective upazila health complex. Health inspectors/assistant health inspectors operate at the union level. Their main responsibilities are to manage and supervise health programs at the union and ward levels, and they are in charge of supervising health assistants. To deliver domiciliary services at the community level, there is at least one health assistant in each older ward (total 21,000) and one assistant health inspector for every three health workers. The family planning inspectors operate at the union level and are the family planning equivalents of health inspectors/assistant health inspectors.

All of the interviewed administrators have direct contact with the CHCPs and the health assistant. Only half of them reported having direct contact with FWAs. When asked whether they had any mechanism for determining whether FWAs/HAs were visiting their assigned households, only 3 out of 15 responded that they had a mechanism for FWAs. Twelve out of 15 responded that they had a mechanism for HAs.

D. Comparison of Compliers and Non-Compliers

As described in the section on the sampling process, data collectors completed a short form with some descriptive characteristics of each household that refused to participate in the study. Thirty-nine eligible households (1.5% of the sample) did not agree to fully participate in the study, 12 refused to participate in any capacity, and 27 decided not to complete data collection after beginning participation. The most common reason for not participating (accounting for 23% of refusals) was that the intended respondent was too busy. Lack of permission from the intended respondent's husband or from the intended respondent's mother-in-law were the next most common reasons cited by respondents (accounting for 21% and 15% of refusals, respectively). In six cases, respondents refused to provide a reason. Table 18 presents the reasons why households refused to participate in the study.

Table 18: Reasons Households Refused to Participate

Reason Given	Percent	N
Too busy	23.08	9
Husband did not approve	20.51	8
Mother-in-law did not approve	15.38	6
No reason given	15.38	6
Believed the test might harm the child	10.26	4
Other reason	10.26	4
Child was sick	5.13	2
Total	100%	39

Household characteristics collected on the short refusal questionnaire were compared with the characteristics of the households that did fully participate in the study in order to test for sampling bias. Table 19 reports the results of these comparisons. Among the data collected, no statistically significant differences were found between households that refused to participate and households that fully participated in the study.

Table 19: Comparisons Between Participating and Refusal Households

Variables	Participants Mean	N1	Refusals Mean	N2	Diff	Diff SE	Diff p-value	Diff ES
Mother's education (years)	6.606	2,566	6.219	32	-0.388	0.662	0.662	-0.119
Father's education (years)	5.399	2,136	6.226	31	0.826	0.884	0.448	0.220
Household size (individuals)	5.990	2,574	5.452	31	-0.538	1.083	0.122	-0.225
Number of rooms in household	2.530	2,563	2.452	31	-0.079	0.344	0.708	-0.058
Time (in minutes) required to reach the nearest community clinic using the normal mode of transportation	29.463	2,574	40.026	39	10.562	5.568	0.062	0.542

Notes: "Diff" is the average difference between compliers and refusals, and "SE" is the standard error of this difference clustered at the community clinic level. "ES" is the effect size of the estimated impact

VI.   Significant Risks to Impact Evaluation Design Encountered During Baseline

This section briefly highlights any known major issues with the baseline data collection that may risk the team's ability to answer all the impact evaluation research questions.

A. Mobility of the Households

Although the birth records are the source of government register data and were expected to be a relatively up-to-date source of information, we found that many households had migrated or moved to another location, or that the address in the register was not accurate. A total of 300 households that we visited had permanently left the catchment area, while another 291 had inaccurate location information. In Muladi, for example, many of the originally sampled households had migrated to other villages, mainly due to mass river erosion. Several households we visited in Kalaura had working mothers who regularly moved around the tea state areas in search of jobs.

However, because this is a randomized controlled trial, the propensity of households to move is equal between the treatment and control groups at baseline. We do not expect the intervention to impact mobility, but if it does, this will create potential bias problems during follow-up. In addition, if mobility between the baseline and endline periods is higher than anticipated (our statistical power calculations accounted for approximately 10% attrition), the attrition of households would undermine the statistical power of the study, which would make it more difficult to identify potentially meaningful program effects.

In an attempt to keep track of households, we are exploring efficient ways to keep the baseline listing up to date.[43] Furthermore, we intend to analyze household mobility in more detail. During the endline period, we will compare the observed characteristics of individuals who left and remained in the sample (examining the treatment and the control groups separately). During the program monitoring phase, we will also collect qualitative data from community leaders about mobility in their communities and reasons for such mobility.

B. Reduced Exposure to the Intervention

One potential risk for the study is that ongoing delays in the implementation of the intervention will reduce the amount of time during which children receive the benefits of the intervention.

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[43] We are exploring whether we could update the listing during the period when the research team will be monitoring the implementation of the program (between June 1014 and September 2015).

The original research design was intended to examine the impact of two years of exposure to the Save the Children stimulation program. However, because the program commenced implementation at the end of May 2014, we will only be able to study the one year and five months impact of this program. This means that service providers will have less time to deliver the key messages and caregivers will have less time to adopt these messages; children will have less time to receive the stimulation; and fewer younger children will receive the benefit of the stimulation. The amount of time that passed between the beginning of baseline data collection period and program implementation meant that children aged three months at the point of baseline data collection (the bottom age range of eligible children) will approximately 10 months old when the intervention .Each of these vulnerabilities can result in smaller estimated treatment effects across the full range of child outcomes, but because one of the key outcome measures (the Bayley test) is only valid for children aged 42 months and younger, moving the endline data collection period beyond October 2015 would be problematic.

C. Low Cronbach's Alpha Coefficients for Two Intermediate Measures

The Cronbach's alpha coefficients for the short and modified versions of the HOME and the knowledge measures were very low: 0.339 and 0.385, respectively. We plan to do some additional measure development work to improve these measures before they are used as real outcome measures.

D. Collection of the Community Leader Survey Post-Randomization

During the study design phase, the research team planned to administer a short survey to community leaders. This survey was intended to provide qualitative context on the communities in which the intervention is being implemented, as well as quantitative data for determining how representative the selected community clinics were of the larger districts (which would help inform about the generalizability of the study's endline findings). However, because of the field team's extensive workload during the baseline data collection period—and in order to allow the data collection team to focus on the time-critical collection of infant and household data collection before the program began— this survey was not administered before the randomization of community clinics. Instead, the questionnaire will be administered by the end of May 2014 by our field monitors, during the program implementation phase. The associated risk to the study is believed to be minimal, because community characteristics collected by the community leader survey are unlikely to change between baseline data collection and the beginning of implementation monitoring. Furthermore, given that treatment and control groups are located with the same union, we do not expect community characteristics to be different in control and treatment groups in ways that could affect the outcomes of interests. It is also important to note that we collected some community characteristics during the baseline data collection period through the service providers' survey.

E. Completion of Some Service Providers' Surveys Post-Randomization

The field team identified three opportunities to interview service providers. However, during this time, we were unable to collect service provider surveys for two community clinics, and complete at least three service provider surveys for each of the community clinics in the study. As a solution, the field

monitors have been tasked with completing these questionnaires at the beginning of the program implementation phase. We anticipate completing these surveys by June 2014. We acknowledge that responses to some of the survey questions could be affected by Save the Children's training, meaning that service providers' answers will not capture their starting point or baseline responses. However, by the end of June, the service providers will only have been implementing the program for one month, and it is therefore less likely that their experiences implementing the program will affect their responses (although it is plausible). Nonetheless, we anticipate that some questions (such as those inquiring about the service providers' trainings, perceptions about ECD, etc.) could be affected to certain extent,[44] and we will approach our analysis of the responses to these questions with considerable care.

VII.   Conclusions

Save the Children's early stimulation program provides messages to mothers of children under three years of age on early childhood stimulation and responsive feeding, and it has the potential to substantially improve children's well-being. The program is low cost, because it builds on an existing delivery platform—community clinics—and trains community health care providers to provide households with young children with a Child Development Card, two picture books, and information about using these materials to create early learning opportunities for children. The program is potentially scalable because it leverages the national nutritional program (part of the 2011–2016 national health sector strategy) for national scale up in collaboration with the Ministry of Health and Family Welfare (MOHFW).

The immediate or direct effects of the intervention will be to change mothers' (and other caregivers') knowledge about the importance of child stimulation, and to change their behaviors by engaging in supportive and stimulating interactions with their children.

The impact evaluation seeks to determine the early childhood stimulation program's ability to affect children's nutrition and child development outcomes. We conducted a baseline survey to learn the pre-treatment status of beneficiary households and to check that the treatment and control households and children were equivalent before the interventions begins. To that end, we collected data from a large sample of 2,574 households with children between the ages of three months and 18 months that were randomly selected from within the catchment areas of 78 community clinics. The samples are located in three upazilas (subdistricts) of Bangladesh and in a total of 30 unions.

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[44] It is possible that questions such as Question 5 (regarding different types of training), questions in Section D (time spent with each household), Section E (perceptions about the importance of ECD), and plausibly Section G (job satisfaction) could change as result of the intervention (training and/or implementation).

Baseline demographic characteristics were the same between treatment and control groups. Mothers were, on average, 26 years old with 6.5 years of education. On average, households included approximately six individuals, and the mother-in-law lived with the family in around 42% of the households. Around 93% of the mothers did not work for cash or in-kind payments. The majority of households in the sample lacked most of the assets listed in the survey (like auto bike, rickshaw, bicycle, radio, water pump, etc.), but the majority of them reported having electricity or solar panel (70%), cellphones (90%), and electric fan (60%).

There is a clear opportunity for this program to have an impact. Most mothers indicated that they make the decisions on food preparation (around 80%) and a large proportion indicated that they make decisions about child care during illness (about 60%). These results suggest that mothers have some power to change behaviors within the household. In addition, a large proportion of respondents (around 80%) agreed with the statement that "*fathers are naturally clumsy when it comes to taking care of babies*," which suggests that families could benefit from the program's information about fathers playing an important role in stimulating their children. Most of the respondents also indicated that they had very few play items for their children at home (1.3 toys on average) and they do not often play or undertake meaningful learning activities with the children, suggesting a major opportunity for the program to have an impact on family behavior. In terms of outcome measures, there is also a clear need for improved nutrition—the percentages of wasted, stunted, and underweight children were found to be 7%, 28%, and 19%, respectively.

The randomization process appeared to have worked in terms of creating equivalent groups at baseline because the mean characteristics of groups were balanced between the treatment and control conditions. None of the key outcome indicators were meaningfully different between the two groups at baseline, and the average cognitive and language scores were equivalent in the treatment and control groups. Moreover, among the key outcomes, only two—one related to fathers' interactions with the children and one relating to children's interactions with other relatives—were statistically different across the study groups.

The results of this evaluation may help to reduce the serious gaps in our knowledge about how to deliver integrated early childhood interventions in cost-effective ways in low-income settings. This information will be particularly useful because it focuses on improving growth and development in the first thousand days of a child's life.

References

Avants, B., Betancourt, L., Giannetta, J., Lawson, G., Gee, J., Farah, M., & Hurt, H. (2012). Early childhood home environment predicts frontal and temporal cortical thickness in the young adult brain [Presentation]. *Paper presented at Neuroscience 2012 Conference*. New Orleans, LA.

Ahmed, T., Mahfuz, M., Ireen, S., Ahmed, M. S., Rahman, S., Islam, M. M., Alam, N., Hossain, M.I., Rahman, S.M., Ali, M.M., Choudhury, F.P., &Cravioto, A. (2012). Nutrition of children and women in Bangladesh: trends and directions for the future. *Journal of Health, Population, and Nutrition*, *30*(1), 1-11. Retrieved from http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3312353&tool=pmcentrez&rendertype=abstract

Black, M.M., Baqui, A.H., Zaman, K., McNary, S.W., Le, K., El Arifeen, S., Hamadani, J.D., Parveen, M., Yunus, M., & Black, R.E. (2007). Depressive symptoms among rural Bangladeshi mothers: Implications for infant development. *Journal of Child Psychology and Psychiatry,* 48(8), 764–772.

Black, R. E., Allen, L. H., Bhutta, Z. A., Caulfield, L. E., de Onis, M., Ezzati, M., Mathers, C., & Rivera, J. (2008). Maternal and child undernutrition: global and regional exposures and health consequences. *Lancet*, 371(9608), 243-60. doi:10.1016/S0140-6736(07)61690-0

Bangladesh Bureau of Statistics. (2011). *Bangladesh Household Income and Expenditure Survey 2010 Report*. Dhaka, Bangladesh.

National Institute of Population Research and Training. (2011). *Bangladesh Demographic and Health Survey 2011 Preliminary Report*. Dhaka, Bangladesh.

Barros, A. J. D., Matijasevich, A., Santos, I. S., & Halpern, R. (2010). Child development in a birth cohort: effect of child stimulation is stronger in less educated mothers. *International Journal of Epidemiology*, 39, 285-94. doi:10.1093/ije/dyp272

Baker-Henningham, H. & Boo, F.L. (2010). Early Childhood Stimulation Interventions in Developing Countries : A Comprehensive Literature Review. *Institute for the Study of Labor*, IZA Discussion Paper No. 5282.

Bayley, N. (2006). Bayley Scales of Infant and Toddler Development, third Edition: Technical Manual, San Antonio, TX: The Psychological Corporation.

Bradley, R.H., Corwyn, R.F, Burchinal, M., McAdoo, H.P., & Coll, C. (2001). The home environments of children in the United States, part II: Relations with behavioral development through age 13. *Child Development2*, *72*(6), 1868-86.

Bhutta, Z. A., Ahmed, T., Black, R. E., Cousens, S., Dewey, K., Giugliani, E., Haider, B. A., Kirkwood, B., Morris, S.S., Sachdev, H.P., Shekar, M. (2008). What works? Interventions for maternal and child undernutrition and survival. *Lancet*, *371*(9610), 417-40. doi:10.1016/S0140-6736(07)61693-6

Economist.com (2012). Making Great Strides. Retrieved from http://www.economist.com/blogs/feastandfamine/2012/11/bangladesh-remarkable-improvement

Engle, P., & Huffman, S. L. (2010). Growing children ' s bodies and minds : Maximizing child nutrition and development. *Food and Nutrition Bulletin*, 31(2), 186-197.

Farah, M. J., Betancourt, L., Shera, D. M., Savage, J. H., Giannetta, J. M., Brodsky, N. L., Malmud, E. K., et al. (2008). Environmental stimulation, parental nurturance and cognitive development in humans. *Developmental Science*, *11*(5), 793-801. doi:10.1111/j.1467-7687.2008.00688.x

Frongillo, E.A., Tofail, F., Hamadani, J.D., Warren, A.M., & Mehrin, S.F. (2014). Measures and indicators for assessing impact of interventions integrating nutrition, health, and early childhood development. *Annals of the New York Academy of Sciences,* 1308, 68-88. doi: 10.1111/nyas.12319

Grantham-McGregor, S. (1995). A review of studies of the effect of severe malnutrition on mental development. *The Journal of Nutrition*, 125(8 Suppl), 2233S-2238S. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/7542705

Grantham-McGregor, S., & Ani, C. (2001). A review of studies on the effect of iron deficiency on cognitive development in children. *The Journal of Nutrition*, 131(2S), 649S-668S. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/11160596

Hamadani, J.D., Tofail, F., Hilaly, A., Huda, S.N., Engle, P., & Grantham-McGregor, S.M. (2010). Use of family care indicators and their relationship with child development in Bangladesh. *Journal of Health, Population and Nutrition*, 28(1), 23-33.

Hamadani, J.D., Huda, S.N., Khatun, F., & Grantham-McGregor, S.M. (2006). Psychosocial stimulation improves the development of undernourished children in rural Bangladesh. *Journal of Nutrition*, 136(10), 2645-52.

Hamadani, J. D., Baker-Henningham, H., Tofail, F., Mehrin, F., Huda, S. N., & Grantham-McGregor, S. M. (2010). Validity and reliability of mothers' reports of language development in 1-year-old children in a large-scale survey in Bangladesh. *Food and nutrition bulletin*, *31*(2 Suppl), S198-206. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/20715604

Jiang, N.M., Tofail, F., Moonah, S.N., Scharf, R.J., Taniuchi, M., Ma, J.Z., Hamadani, J.D., Gurley, E.S., Houpt, E.R., Azziz-Baumgartner, E., Haque, R., & Petri, W.A. Jr. (2014). Febrile illness and pro-inflammatory cytokines are associated with lower neurodevelopmental scores in Bangladeshi infants living in poverty. *BMC Pediatrics*, 14:50. doi: 10.1186/1471-2431-14-50.

Khanam, R., Nghiem, H. S., & Rahman, M. M. (2011). The impact of childhood malnutrition on schooling: evidence from Bangladesh. *Journal of Biosocial Science*, *43*(4), 437-51. doi:10.1017/S0021932011000149

Lugo-Gil, J. & Tamis-LeMonda, C. S. (2008). Family resources and parenting quality: links to children's cognitive development across the first 3 years. *Child Development*, 79(4), 1065-1085. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2008-09673-017&site=ehost-live&scope=site

McLoyd, V. (1998). Socioeconomic disadvantage and child development. *American Psychologist*, *53*(2), 185-204.

Murray L, & Cooper, P. (1997). Effects of postnatal depression on infant development. *Archives of Disease in Childhood*, 77, 99-101.

Nahar, B., Hossain, M.I., Hamadani, J.D., Ahmed, T., Huda, S.N., Grantham-McGregor, S.M., & Persson, L.A. (2012). Effects of a community-based approach of food and psychosocial stimulation on growth and development of severely malnourished children in Bangladesh: a randomised trial. *European Journal of Clinical Nutrition*, 66(6), 701-9.

Nahar, B., Hamadani, J. D., Ahmed, T., Tofail, F., Rahman, A., Huda, S. N., & Grantham-McGregor, S. M. (2009). Effects of psychosocial stimulation on growth and development of severely malnourished children in a nutrition unit in Bangladesh. *European Journal of Clinical Nutrition*, *63*(6), 725-731. Macmillan Publishers Limited. Retrieved from http://discovery.ucl.ac.uk/49685/

Nahar, B., Hossain, M.I., Hamadani, J.D., Ahmed, T., Grantham-McGregor, S., & Persson, L.A. (2012). Effects of psychosocial stimulation on improving home environment and child-rearing practices: results from a community-based trial among severely malnourished children in Bangladesh. *BMC Public Health*, 12, 622. doi:10.1186/1471-2458-12-622

Normand, C., Iftekar, M. H., & Rahman, S.A. Assessment of the community clinics: effects on service delivery, quality and utilization of services. Health Systems Development Programme, UK Department of International Development (HSD/WP/12/02). Retrieved from http://r4d.dfid.gov.uk/PDF/Outputs/HealthSysDev_KP/bang_comm_clinics_web_version.pdf

Patel, V., Rahman, A., Jacob, K.S., & Hughes, M. (2004). Effect of maternal mental health on infant growth in low income countries: new evidence from South Asia. *BMJ*, 328(7443), 820-3.

Piaget, J. (1952). The origins of intelligence in children. New York. International Universities Press.

Roy, S.K., Fuchs, G.J., Mahmud, Z., Ara, G., Islam, S., Shafique, S., Akter, S. S., & Chakraborty, B. (2005). Intensive nutrition education with or without supplementary feeding improves the nutritional status of moderately-malnourished children in Bangladesh. *Journal of Health, Population, and Nutrition*, *23*(4), 320-30. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/16599102

Roy, S.K., Jolly, S. P., Shafique, S., Fuchs, G. J., Mahmud, Z., Chakraborty, B., & Roy, S. (2007). Prevention of malnutrition among young children in rural Bangladesh by a food-health-care educational intervention: a randomized, controlled trial. *Food and Nutrition Bulletin*, *28*(4), 375-83. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/18274163

National Research Council and Institute of Medicine. (2000). From Neurons to Neighborhoods: The Science of Early Childhood Development. *Committee on Integrating the Science of Early Childhood Development*. Shonkoff, J.P. & Phillips, D.A. (Eds.) Board on Children, Youth, and Families, Commission on Behavioral and Social Sciences and Education. Washington, D.C.: National Academy Press.

Tofail, F., Hamadani, J.D., Mehrin, F., Ridout, D.A., Huda, S.N., Grantham-McGregor, S.M. (2013). Psychosocial stimulation benefits development in nonanemic children but not in anemic, iron-deficient children. *Journal of Nutrition,* 143, 885-893.

Victora, C. G., Adair, L., Fall, C., Hallal, P. C., Martorell, R., Richter, L., & Sachdev, H. S. (2008). Maternal and child undernutrition: consequences for adult health and human capital. *Lancet*, 371(9609), 340-57. doi:10.1016/S0140-6736(07)61692-4

Vigotsky, L.S. (1978). Mind in society. The development of higher psychological processes. Cambridge, MA: Harvard University Press.

Walker, S. P., Wachs, T. D., Grantham-McGregor, S., Black, M. M., Nelson, C. A., Huffman, S. L., Baker-Henningham, H., Chang, S.M., Hamadani, J.D., Lozoff, B., Meeks Gardner, J.M., Powell , C.A., Rahman, A., & Richter, L. (2011). Inequality in early childhood: risk and protective factors for early child development. *Lancet*, *378*(9799), 1325-38. doi:10.1016/S0140-6736(11)60555-2

Walker, S. P. (2010). Commentary: Early stimulation and child development. *International Journal of Epidemiology*, 39, 294-295. doi:10.1038/jp.2009.42

Walker, S. P., Wachs, T. D., Gardner, J. M., Lozoff, B., Wasserman, G. A., Pollitt, E., & Carter, J. A. (2007). Child development: risk factors for adverse outcomes in developing countries. *Lancet*, *369*(9556), 145-157. Elsevier. Retrieved from http://doi.wiley.com/10.1111/j.1365-2214.2007.00774_2.x

Zaslow, M., Halle, T., Martin, L., Cabrera, N., Calkins, J., Pitzer, L., Margie, N.G. (2006). Child outcome measures in the study of child care quality. *Evaluation Review*, *30*(5), 577-610. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/16966677?dopt=Abstract

Appendix A: Description of the National Nutrition Service

The National Nutrition Service (NNS) is as a key component of the recently enacted national Health Population Nutrition Sector Development Plan (HPNSDP), which guides government programs from 2011 to 2016. The purpose of the NNS is to address malnutrition and mainstream nutrition in government services, through the development of a package or interventions. The package of interventions is based on global evidence of successful nutrition strategies and has been developed with input from nutrition actors in Bangladesh, including NGOs, UN organizations and donors. The Government of Bangladesh is committed to support the scale up of the NNS package over the coming years.

Save the Children is supporting the government delivering the full package of NNS interventions and monitor the delivery mechanism of the package in three upazilas in Sylhet, Chittagong and Barisal Divisions. Specifically, Save the Children's role is to train government health workers and support community volunteers to identify and treat malnutrition, whilst providing mothers with the skills to prevent it. In these three upzilas, the NNS is expected to improve the nutritional status and behavior of an estimated 110,000 children under five and 18,000 women of reproductive age living. For more detail about the NNS messages see Table A2 in Appendix A.

A key component of the NNS package is the community-based promotion of positive nutrition practices. This includes: exclusive breastfeeding for children up to six months, appropriate complementary feeding practices for children from six months to two years of age, screening for malnutrition, and appropriate referral to healthcare facilities for treatment. Health workers provide micro-nutrient supplements (vitamin A, iron, folate, zinc and calcium) and de-worming medication to prevent malnutrition, whilst complicated cases of severe acute malnutrition are being treated in upazila hospitals.

Community clinics host growth monitoring sessions for children under two and facilitate referrals to the union level (and if needed upazila level) facilities, where trained health workers screen for malnutrition for all children under-5, and provide mothers with nutrition counseling (primarily IYCF counseling). An important aim of the package is to establish an effective referral system for the prevention and treatment of maternal and child malnutrition.

The NNS covers various types of service delivery points and service providers as described in the next table.

Table A1. Service Delivery Point and Service Provides that will benefit from National Nutrition Services

Service Delivery Points		Service Providers
1. Community Clinic	:	Community Health Care Providers, Health Assistants, Family Welfare Assistant
2. Family Welfare Center	:	Health Inspector, Health Assistants, Family Welfare Volunteer, Family Welfare Assistant
3. Satellite Clinic	:	Family Welfare Volunteer, Family Welfare Assistant
4. EPI (Expand Promotion of Immunization) center	:	Health Inspector, Health Assistants, Family Welfare Assistant
5. Upazila Health Complex	:	Sub-Assistant Community Medical Officer, Health Inspector, Family Planning Inspector, Family Welfare Volunteer

Note. The only service providers that do regular visits to households are health assistants and family welfare assistants.

Table A2. Description of the National Nutrition Services Package

NNS package for adolescent girls, pregnant women and children under five
Upazila Health Complex
• Treatment of severe acute malnutrition (SAM) • Screening for malnutrition • Promotion of infant and young child feeding (IYCF) practices • Provision of micro-nutrient supplements and de-worming treatments • Nutrition counseling tailored to children under five and adolescent girls (nutrition and hygiene).
Union Facilities
• IYCF counseling for children under two years • Provision of micro-nutrient supplements • Nutrition counseling tailored to children under five and adolescent girls • Referral of severe cases to the Upazila Health Complex.
Community Clinics
• Screening for malnutrition • IYCF counseling • Specific breastfeeding counseling • Provision of micro-nutrient supplements • Referral of severe cases to the Upazila Health Complex • Follow-up home visits to ensure parents are complying with treatment and referrals.

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Household Level
• Screening for malnutrition • Referral of malnutrition cases to health facilities • Treatment of malnutrition in the home • Provide ongoing nutrition advice for all children • Using Behavior Change Communication (BCC) to promote good IYCF, de-worming, maternal and newborn care practices and encourage visits to healthcare facilities.

Appendix B: Save the Children Training, Program Curriculum, and Program Materials

B.1 Save the Children Training and Program Curriculum

Save the Children developed a comprehensive training module to train service providers. The training module includes an orientation to how children develop and learn, and why it is critical to focus on early stimulation in addition to nutrition and health. The core of the training covers eight issues, and each key issue has a corresponding behavioral message for the training recipients to remember and practice. The training curriculum is accompanied by program materials aimed at supporting frontline service providers in delivering the key ideas and in counseling mothers on key recommendations.

Save the Children trained frontline service providers for four days on stimulation and responsive care. This focused early-stimulation training was designed to be hands-on and interactive. Thirty-six health assistants (HAs), 31 family welfare assistants (FWAs), and 32 community health care providers (CHCPs) received a full orientation to the key messages and also learned how to counsel mothers on one message at a time in the context of their brief interactions with families. This is intended to ensure a more family-oriented approach to stimulation and care. In the less-than-two-year course of the intervention, Save the Children will provide four 1- or 2-day refresher training sessions on stimulation at 5–6 month intervals. In addition, during the intervention period, there will be at least six meetings with service providers focused on troubleshooting challenges, answering mothers' questions, and coming up with solutions to common problems the providers are facing while delivering key messages. These meetings will be aligned with monthly management meetings that CHCPs, FWAs, and HAs already have with their supervisors.

Method and Materials Used

Each of the topics in the curriculum was presented in participatory and interactive ways. An active environment was ensured through using video clips, debates, role playing, group work, "energizer" games, one day of in-class practice, two days of field practice at the community clinic and home level, and sharing of field experience reflections.

At the second day of the training, 4–5 mothers of children under three years old were invited to the training session, and participants had the opportunity to interact with the mothers and their children.

Every participant received two picture books and one key message book, and a child development card to learn how and when to use the materials. Furthermore, during the training, facilitators also demonstrated to participants how a mother or any other caregiver can interact with their child using household materials, like a spoon and bowl or plate, household utensils, colorful balls, an empty bottle, and clothes and fabrics.

During the third and fourth day of the training, participants were in the field for a practice session. On the third day, participants went to households to communicate with children (along with the mother or caregiver of the children), and on the fourth day they practiced at the community clinic. By the end of the field practice session, each participant had had at least four interactions with children from different age groups. During the training, participants were also advised on how to provide counseling.

Facilitators also provided participants with guidelines for the field work, indicating the following key points:

- Start with greetings
- Get permission
- Coach the parents, especially the mother
- Build strong rapport
- Consider the mother's time
- Don't interfere
- Respect their opinion
- Don't correct their activities
- Give thanks

The following tables present the key messages for mothers and caregivers.

Table B.1 Key Messages for Mothers and Caregivers

	Key Issue	Key Message
1	Care during pregnancy (for pregnant women)	Your baby's brain is already developing—eat nutritious food and take good care of yourself to help your baby grow well. Prepare for baby's arrival by making a rattle or other appropriate toys.
2	Love and affection	Give your child affection every day and show your love to your child by smiling, hugging, and praising him/her.
3	Play and games	Play games with your child every day, and let him or her play with different playthings around the house.
4	Talking and communicating	Talk with your child while doing household work every day and respond to your child's sounds and attempts to talk. Teach him/her new words, songs, and stories.
5	Positive discipline	Practice gentle discipline and praise your child for good behaviors.
6	Responsive feeding	Feed your child with patience and good humor—talk with your child during a meal, keep eye contact, and follow the child's cues.
7	Health and hygiene	Wash your hands and help your child practice hand washing with soap.

8	Share messages	Share your knowledge with others in the household and the community as often as possible.

The key messages and recommendations were carefully developed, taking into consideration all relevant guidelines (i.e., WHO-UNICEF 2007 guidelines and documents of various interventions in Bangladesh). In addition, an advisory committee of experts from Bangladesh, including representatives from the Ministry of Health and Family Planning, was consulted in the development of the messages, and consensus was sought among all committee members to develop the most effective messages in Bangla language. Further, messages were pilot tested in the context of Save the Children's pilot early-stimulation program in Meherpur in 2010—2011, with encouraging results. Of the eight messages described above, three (Numbers 2, 3, and 4 in Table B.1) are centered on early stimulation and receive more focused attention and age-specific recommendations in accompanying job aids or program materials (described below).

The program materials were validated among rural caregivers in Bangladesh and are described below:

Key Messages Picture Booklet. This booklet contains the 12 key messages, with appropriate illustrations for each message. It has been designed for service providers to remind themselves of the messages and to educate and counsel mothers during household visits as well as during regular clinic visits of families.

Materials provided to households:

- **Child Development Card.** The Child Development Card has been designed to foster the mother's ability to remember key behavioral messages and to provide ideas for ways she can interact with her child. The card is trifold, with age-specific recommendations relevant to two of the key messages: play and communication. The Child Development Card is divided into five sections by age group: pregnancy, birth–6 months, 7–12 months, 1–2 years, and 2–3 years. Key recommendations with appropriate illustrations are included for each age group, focusing on (1) what games mothers can play with children and what play materials they can provide and (2) how to respond to the child's cues and support language development and communication. The illustrations developed for each recommendation are critical; many women in rural Bangladesh are illiterate.[45]

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[45] The illiteracy rate is about 58% for women overall, and higher in rural areas; http://www.foodsecurityatlas.org/bgd/country/education/literacy

The recommendations are simple and easy for mothers to practice with their children at home. A copy of the Child Development Card will be given to each mother (one per child) as take-home material. The service providers will educate caregivers about how to use the card.[46]

- **Picture Books** are also provided to the household. Books are critical for children's cognitive, language, and overall development. These materials are expected to be used by caregivers to help them teach their children new words and provide topics for communication and play. They include the following:

    Household Picture Book (Amar Bari) – This small book contains pictures and names of 15 available goods in the household, such as a door, window, glass, plate, and chair.

    Nature Picture Book. *(Amar Jogot)* – This small book contains pictures and names of 15 objects in nature, such as a tree, cow, dog, bird, flower, and cloud.

- **Key Message Picture Booklet.** This picture book is a smaller version of the booklet developed for the service providers. It delivers each key message through appropriate illustrations in an engaging way. The books are meant for the mothers/caregivers but can be used as learning/stimulating material with the young child as well. The service providers will educate caregivers about how to use the picture book.

B.2 Launching Ceremony of the Early Stimulation Program

The program was officially launched in Dhaka and the three upazilas of Bangladesh, where the early stimulation intervention program is being implemented.

First, the program was officially launched in a ceremony organized on March 10, 2014, in Dhaka. This ceremony was put on with the support of National Nutrition Services (NNS), Revitalization of Community Health Care Initiatives in Bangladesh (RCHCIB), and Save the Children (SC). The objective of the launching ceremony was to share the study goals and objectives and the study approach.

Michael McGrath (Country Director, SC) delivered the inauguration speech and welcomed the participants. He also mentioned the importance of creating empirical evidence. Professor Dr. Deen

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[46] The illustrations on the Child Development Card could also serve the purpose of a picture book. In a context where hardly any families have access to picture books for their child (which is an important predictor of language and cognitive outcomes), the Child Development Card is expected to be used by families in such a manner. Caregivers could show pictures from the cards to their children and at the same time are reminded of the key recommendations included in the card.

Mohd Noorul Huq, Director General, Directorate General of Health Services, Ministry of Health and Family Welfare, attended as a chief guest; he greatly appreciated the initiative and reported that he looked forward to positive results of the study and future scale-up. Dr. Makhduma Nargis (Project Director of RCHCIB, Ministry of Health and Family Welfare), as chair person, addressed the importance of the study. Dr. Barendra Nath Mandal (Additional Project Director, RCHCIB), Dr. Nasreen Khan (Deputy Program Manager, NNS), and Roxana Khanom (Manager, SC), presented the role of RCHCIB, an overview of NNS, and a study overview of the SIEF project. The launching was concluded with a vote of thanks by Dr. Md. Hedaytul Islam (Director, Institute of Public Health and Nutrition, IPHN) and Dr. Hedayetul (Line Director, NNS) conveyed thanks for organizing this event.[47]

Following the ceremony, the program was officially launched in each of the three upazilas of Muladi, Kulaura, and Satkania. In the three upazilas, the welcome speech was given by three different upazila Health and Family Planning Officer; all of them expressed their gratitude to the participants for their active participation in the program. A total of 176 participants attended the local launching ceremonies. Participants included the Civil Surgeon, Deputy Civil Surgeon, Deputy Director of Family Planning, upazila Nirbahi Officer, UH&FPO, UFPO, among others. Also, treatment area's health inspectors, family planning inspectors, assistant health inspectors, CHCP, FWA, HA, P-3 parents with their child, media personnel and various respective professionals of these upazilas attended the launching event.

After the introduction session and welcome speech, Roxana Khanom (Manager, SC), presented the SIEF study with a PowerPoint presentation. She added that a MOU was already signed between NNS, RCHCIB, and Save the Children for the successful completion of this project.

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[47] Parents, Community Group members, Community Health Care Provider from Kulaura upazila; DD-FP, upazila Health and Family Planning Officer (UH&FPO), upazila Family Planning Officer (UFPO), Data International (DI), ICDDR,B, BRAC NGO, SC-Health team, Everyone Campaign, Institute of Public Health Nutrition Bangladesh (IPHN) Managers, and Revitalization of Community Health Care Initiatives in Bangladesh (RCHCIB) Managers also attended the event.

Launching Ceremony Pictures

Roxana Khanom, Manager-EYD, presenting SIEF brief note, Kulaura, Moulvibazar

Speech by Chief Guest, Kulaura, Moulvibazar

Launching ceremony in Satkania, Chittagong

Md. Habibur Rahman, Senior Education Advisor—SCI, delivering his speech in Satkania, Chittagong

Local News Articles
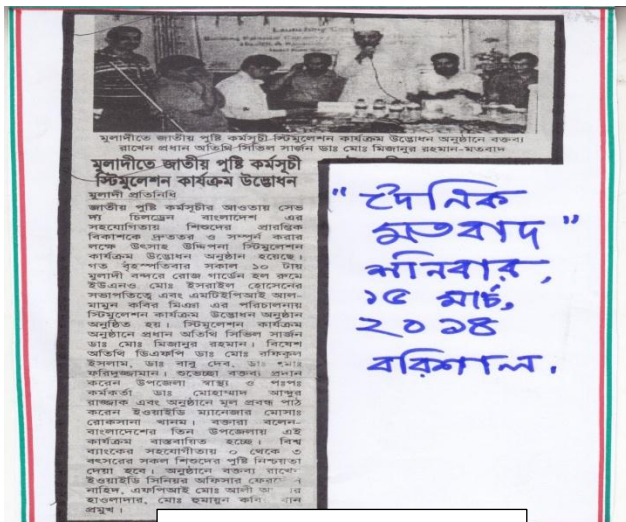
From Muladi, Barisal

From Kulaura, Moulvibazar

B.3 Materials Developed by Save the Children

Child Development Card

বলতে বলতে শেখা

ঘরের কাজের সময় আপনি কি করছেন তা শিশুর সাথে গল্প করুন। শিশুকে এমন কিছু নির্দেশনা দিন যা সে সহজেই অনুসরণ করতে পারে। যেমন: মাকে বাটিটি এনে দাও, প্লাসটি রেখে আস।

শিশুকে মাঝে মাঝে বেড়াতে নিয়ে যান। আশেপাশে যা চোখে পড়বে সেসব জিনিসের সাথে পরিচয় করিয়ে দিন।

শিশুকে গল্প, ছড়া, ও গান শোনান। হাততালি দিতে ও অজ্ঞভঙ্গি অনুকরণে উৎসাহিত করুন।

প্রতিদিন শিশুকে নিয়ে বই পড়ুন, ছড়া শোনান ও গল্প বলুন

খেলতে খেলতে শেখা

শিশুকে বিভিন্ন জিনিস এক জায়গায় করার জন্য দিন। সেগুলো কোন কিছুর মধ্যে রাখতে ও আবার বের করতে বলুন (যেমন: প্লাস্টিক বা মেলামাইনের ছোট গ্লাস, ছোট বাটি বড় বাটির মধ্যে রাখতে ও বের করতে বলুন বা সাজিয়ে রাখতে বলুন)।

শিশুকে বিভিন্ন আকার ও আকৃতির রঙিন ও নিরাপদ খেলনা খেলতে দিন।

আপনার শিশুর জন্য বিভিন্ন ধরনের নিরাপদ খেলনা (কাপ, ঢাকনা, ছোট বোতল, পুতুল, হাড়িপাতিল, পাতা ইত্যাদি) দিয়ে খেলনার ঝুড়ি তৈরি করুন। প্রতিদিন খেলার সুযোগ করে দিন।

প্রতিদিন শিশুর কাজের প্রশংসা করুন

২ থেকে ৩ বছর

বলতে বলতে শেখা

ধৈর্য সহকারে শিশুর কথা শুনুন। শিশুর প্রশ্নের উত্তর দিন। প্রশ্নটি যতই অবাস্তব বা অপ্রয়োজনীয় হোক না কেন ?

প্রতিদিন শিশুকে কিছু কিছু নতুন শব্দ শেখান। যেমন: বিভিন্ন রঙ শরীরের অঙ্গ-প্রত্যঙ্গ, প্রাণি, গাছপালা ও বাড়ির চারপাশের জিনিসপত্র।

শিশুকে বই পড়ে শোনান এবং বইয়ের ছবি নিয়ে আলোচনা করুন। ছবি দেখে আপনার শিশুকে গল্প বলতে উৎসাহিত করুন।

শিশুর সাথে বিভিন্ন বিষয় নিয়ে কথা বলুন ও প্রশ্ন করতে উৎসাহিত করুন

খেলতে খেলতে শেখা
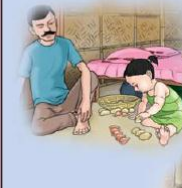
শিশুকে গণনা করতে, বিভিন্ন বস্তুর নাম বলতে এবং নানান সংখ্যা-আকৃতির মধ্যে তুলনা করতে সাহায্য করুন। (যেমন: কম-বেশি, ছোট-বড়, লম্বা-খাট ইত্যাদি)।

শিশুকে সহজ ও বয়স উপযোগী ছোটখাট ঘরের কাজ করতে উৎসাহিত করুন এবং রান্নাবাটি খেলা খেলতে সুযোগ করে দিন।
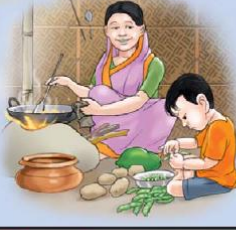
শিশুকে কাঠি, গাছের ডাল, চক দিয়ে মাটিতে, বালিতে বা মেঝেতে নানারকম আঁকাআঁকিতে উৎসাহিত করুন। স্লেট বা কাগজে আঁকাআঁকি করতে সুযোগ করে দিন।

সমবয়সী শিশু ও ভাইবোনদের সাথে খেলতে উৎসাহিত করুন

জীবনের প্রথম ৩ বছর শিশুর বিকাশে সময় দিন, যা শিশুর পরবর্তী কালে অনেক সুফল বয়ে আনবে।

সেবা/পরামর্শ প্রদানকারীর নাম ও স্বাক্ষর

প্রকাশনায়:
শিশুদের জন্য, শিক্ষা সেক্টর
সেভ দ্য চিলড্রেন
২০১৪

যত্ন, ভালবাসা, খেলাধুলা ও পুষ্টি বাড়াবে শিশুর বিকাশ, বৃদ্ধি ও বুদ্ধি

শিশু বিকাশ কার্ড

শিশুর নাম ঃ
ছেলে ☐ মেয়ে ☐
জন্ম তারিখ ঃ
মায়ের নাম ঃ
পিতার নাম ঃ
ঠিকানা
গ্রাম ঃ
ইউনিয়ন ঃ

কমিউনিটি ক্লিনিকের নাম ঃ
উপজেলা ঃ
জেলা ঃ
কার্ড প্রদানের তারিখ ঃ

সেভ দ্য চিলড্রেন

স্বাস্থ্য ও পরিবার কল্যাণ মন্ত্রণালয়

গর্ভ থেকে জন্ম

শিশু মায়ের গর্ভে থাকার সময় থেকেই আপনার কণ্ঠস্বর শুনতে ও চিনতে পারে। তাই গর্ভে থাকার সময় থেকেই শিশুর সাথে কথা বলুন।

প্রতিদিন শব্দ করে গল্পের বই পড়ুন ও গান শুনুন। তাহলে জন্মের পর আপনার শিশুর ভাল অভ্যাস গড়ে উঠবে।

আপনার শিশুর জন্য ঝুনঝুনি, রঙিন ও নরম জাতীয় বিভিন্ন খেলনা তৈরি করুন।

আপনার শিশুর বেড়ে ওঠার জন্য একটি হাসিখুশি পরিবার প্রয়োজন। শিশুর জন্মের আগে থেকেই স্বামীর সাথে শিশুর যত্ন ও লালন নিয়ে আলাপ করুন।

আপনাকে প্রতিদিন কমপক্ষে ২ ঘন্টা বিশ্রাম নিতে হবে। তাহলে আপনার শিশুও বিশ্রাম পাবে এবং গর্ভকালীন শিশুর বৃদ্ধি ও গঠন পরিপূর্ণ হবে।

শিশুর জীবনের প্রথম তিন বছর খুবই গুরুত্বপূর্ণ। গর্ভকালীন যত্ন নিশ্চিত করতে পারলেই শিশুর ধারাবাহিক বিকাশ সম্ভব।

জন্ম থেকে ৬ মাস

বলতে বলতে শেখা

শিশুকে খাওয়ানো বা জামা-কাপড় বদলাবার সময় তার সঙ্গে কথা বলুন, গান করুন, মজা করুন। এমন কি ঘরের অন্যান্য কাজের মাঝেও আপনি নিয়মিত শিশুর সঙ্গে কথা বলুন।

ছোট্ট শিশুও যোগাযোগ করতে পারে। শিশুকে অনুকরণ করে তার মতো শব্দ ও অঙ্গভঙ্গি করুন।

কথা বলা ও আদর করার সময় শিশুর চোখে চোখ রাখুন এবং হাসি মুখে শিশুর দিকে তাকান।

শিশুকে সবসময় ভালোবাসা ও আদর দিন

খেলতে খেলতে শেখা

শিশুর চোখের ও হাতের নাগালের মধ্যে কিছু রঙিন খেলনা রাখুন। মাঝে মাঝে রঙিন খেলনাটি আস্তে দুলিয়ে দিন যেন সে দেখতে পায় ও ধরতে পারে।

ঝুনঝুনি দিয়ে শিশুর আশেপাশে হালকা শব্দ করুন এবং খেয়াল করুন শিশু শব্দের দিকে তাকাচ্ছে কিনা?

শিশু ধরতে পারে এমন ধরনের জিনিস দেখতে ও স্পর্শ করতে সাহায্য করুন (যেমন: রঙিন কাপড়ের খেলনা ও পুতুল, রঙিন বল, প্লাস্টিকের খেলনা ইত্যাদি)।

প্রতিদিন শিশুর সাথে খেলাধুলা করুন

৬ থেকে ১২ মাস

বলতে বলতে শেখা

শিশু বিভিন্ন ধরনের অঙ্গভঙ্গি ও শব্দ করে। এগুলোর মধ্য দিয়ে শিশু ধীরে ধীরে কথা বলা শুরু করে। শিশুর এসব শব্দ বা অঙ্গভঙ্গি নিয়মিত অনুকরণ করুন।

পরিবারের সদস্যদের সাথে শিশুকে পরিচিত করান। বাড়ির চারপাশের নতুন নতুন মানুষ ও জিনিসের নাম বলুন (যেমন: নানি-দাদি, খালা-ফুপু, মামা-চাচা, ফলমূল, গাছপালা, পশুপাখি)।

শিশুকে প্রতিদিন ছবির বই দেখান, নাম বলুন ও ছবিটি নিয়ে কথা বলুন।

শিশুর সঙ্গে কথা বলুন ও তার অঙ্গভঙ্গিতে সাড়া দিন

খেলতে খেলতে শেখা

শিশুকে নাড়াচাড়া ও খেলা করার জন্য নিরাপদ ও পরিষ্কার ঘরোয়া জিনিসপত্র দিন। এসব জিনিসপত্র দিয়ে শিশু শব্দ তৈরি করতে পারে (যেমন: স্টিল বা অ্যালুমিনিয়ামের প্লেট, গ্লাস, বাটি ইত্যাদি)।

শিশুর সাথে হাত নাড়িয়ে তালে তালে গান করুন। সেইসাথে শিশুও যেন আপনাকে অনুসরণ করে একইভাবে অঙ্গভঙ্গির তালে তালে গান করতে পারে।

শিশুর সাথে লুকোচুরি খেলা খেলুন। রুমাল অথবা কাপড়ের নিচে খেলনা লুকিয়ে রেখে শিশুকে খুঁজে বের করতে বলুন।

ঘরের নিরাপদ জিনিসপত্র দিয়ে শিশুকে খেলতে দিন

Key Message Picture Book

গর্ভবতী মা ও গর্ভে থাকা শিশুর সঠিক যত্ন নিন। গর্ভবতী মাকে হাসিখুশি রাখুন। এটা পরিবারের দায়িত্ব।

- আপনার শিশুর মস্তিষ্ক ইতোমধ্যে গঠন হতে শুরু করেছে। মস্তিষ্কে হাজার হাজার স্নায়ুকোষ একে অন্যের সাথে যুক্ত হচ্ছে, ঠিক যেমনটি গাছে গাছে পরিপূর্ণ একটি বন সৃষ্টি হয়।
- শিশু গর্ভে থাকার সময় থেকেই আপনার কণ্ঠ শুনতে এবং চিনতে পারে। তাই গর্ভবতী হওয়ার পর থেকেই শিশুর সাথে কথা বলুন ও তাকে স্পর্শ করুন। আপনার শিশু তা শুনতে পাবে ও বুঝতে পারবে।
- প্রতিদিন পর্যাপ্ত বিশ্রাম নিন। কমপক্ষে দিনে ২ ঘন্টা গর্ভবতী মাকে বিশ্রামের সুযোগ দিন। এতে করে আপনার শিশুও বিশ্রাম পাবে এবং সুষ্ঠভাবে বেড়ে উঠবে।
- শিশু গর্ভে থাকার সময় আপনি পুষ্টিকর খাবার খান যা শিশুর মস্তিষ্ক গঠনের জন্য সহায়ক হবে।
- বাবা এবং পরিবারের অন্যান্য সদস্যরা নতুন মাকে গৃহস্থালীর কাজে সহযোগিতা করুন এবং মাকে দুঃশ্চিন্তা মুক্ত রাখুন।
- আপনার শিশুর জন্য ঝুনঝুনি, নরম কাপড়ের বল, সরিষার বালিশ এবং বিভিন্ন রঙের খেলনা তৈরি করুন।

স্বামী স্ত্রী উভয়েই
শিশুর যত্ন ও লালনে
একে অপরকে
সহযোগিতা করুন ।

- স্বামী-স্ত্রীর ইতিবাচক আচরণ, সম্পর্ক এবং বাবার পূর্ণ সহযোগিতা শিশুর বুদ্ধিমত্তা ও বিকাশে যথেষ্ট প্রভাব ফেলে ।
- স্বামী-স্ত্রী একে অপরের প্রতি শ্রদ্ধাশীল এবং ভালোবাসা থাকতে হবে (যেকোন ধরনের নির্যাতন ও নিপীড়ন থেকে বিরত থাকুন) ।
- জন্মের পর শিশুর স্বাভাবিক বিকাশে পরিবারে বাবার ভূমিকা অনেক গুরুত্বপূর্ণ । যদি বাবা শিশুকে কোলে নেয়, খেলা করে, কথা বলে সেক্ষেত্রে শিশুর ইতিবাচক বিকাশ ঘটবে ।
- স্ত্রীকে গর্ভকালীন ও গর্ভ পরবর্তী সময়ে গৃহস্থালীর কাজে সহায়তা করতে হবে । সে পুষ্টিকর খাবার খাচ্ছে কিনা তা খেয়াল রাখতে হবে । আপনার স্ত্রী যেন কোন প্রকার দুশ্চিন্তাগ্রস্থ না থাকে সেদিকে সচেতন থাকতে হবে ।
- মায়ের সিদ্ধান্ত গ্রহণ এবং গতিশীলতাকে উৎসাহিত করতে হবে ।

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শিশুকে সবসময়
ভালোবাসা ও
আদর দিন।

- শিশুর সঠিকভাবে বেড়ে ওঠা ও নিরাপত্তা বিধানে তার উষ্ণ ছোঁয়া, আদর ও উৎসাহের প্রয়োজন।
- আপনার শিশুকে কোলে নিয়ে, আলতো স্পর্শ করে, বুকে জড়িয়ে, তার প্রতি ভালোবাসা প্রদর্শন করুন। প্রথম তিন বছর শিশুর সাথে মা-বাবার যত নিবিড় সম্পর্ক থাকবে ততই শিশুর বিকাশের ভিত মজবুত হবে।
- আপনি আপনার শিশুর চোখের দিকে তাকান এবং তার মনোযোগ আকর্ষণ করুন। জন্মের পর থেকেই সে আপনাকে দেখে এবং চেনে।
- আপনার শিশুর সাথে হাসুন এবং তার চাহনির ও কথার উত্তর দিন।
- আপনার শিশু যখন নতুন কিছু করতে শেখে তখন তার কাজের প্রশংসা করুন এবং তাকে উৎসাহ দিন।

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শিশুকে ঘরের বিভিন্ন নিরাপদ খেলনা দিয়ে খেলতে দিন।

- শিশুরা মাতৃগর্ভে থাকার সময় থেকেই শিখতে শুরু করে।
- জন্মের পর থেকে শিশুরা বিভিন্ন ঘরোয়া জিনিসপত্র ও খেলনা দিয়ে খেলতে চায়।
- ঘরের বিভিন্ন জিনিস নিয়ে শিশুকে খেলতে দিন।
- শিশুকে ঘরের জিনিস ধরা, শব্দ করার জন্য নিরাপদ এবং পরিষ্কার পাত্র দিন (যেমন: বাটি, প্লেট, ঢাকনা এবং লোহার পাত্র)।
- আপনার শিশুর জন্য খুবই সহজ কিছু খেলনা তৈরি করুন। যেমন- প্লাস্টিকের বোতল দিয়ে ঝুনঝুনি, কাপড়ের বল, কাগজের ঘুড়ি, মাটির পুতুল, পাতার খেলনা ইত্যাদি।
- আপনার শিশু যেসব খেলনা নিয়ে খেলে সেসব খেলনা রাখার জন্য একটি ঝুড়ি তৈরি করতে পারেন। যেখানে পরিষ্কার ও নিরাপদ খেলনা থাকবে। আপনি যখন ঘরের কাজে ব্যস্ত থাকবেন তখন শিশুকে খেলনার এই ঝুড়িটি শিশুর সামনে দিন এবং কাজের ফাঁকে ফাঁকে শিশুর সাথে গল্প করুন।

শিশুর সাথে প্রতিদিন কথা বলুন, গল্প করুন ও গান করুন। এই কাজটি ঘরের কাজের ফাঁকে ফাঁকে করতে পারেন।

- ভাষা ও বুদ্ধিমত্তার বিকাশ নির্ভর করে আপনি কতটা সময় শিশুর সাথে কথা বলছেন, গল্প করছেন ও খেলাধুলা করছেন। সে জন্য শিশুকে সময় দিন।
- আপনার শিশু যখন ছোট, তখন আপনার শিশুর প্রতি খেয়াল রাখুন। তার বিভিন্ন শব্দের একইরকমের উত্তর দিয়ে, তাকে কিছু বলতে সহায়তা করুন, তার মত করে হাত-পা নেড়ে খেলা করুন।
- আপনি ও আপনার শিশু একসাথে ছড়া বলুন এবং গান করুন।
- যখন রান্না করেন তখন আপনার শিশুকে বলুন যে আপনি কোন সবজি রান্না করছেন, কিভাবে করছেন ইত্যাদি।
- আপনার শিশুকে নিয়ে যখন বাইরে হাঁটবেন তখন আশেপাশের পশুপাখি, গাছপালা, মানুষজন চোখে পড়বে সেগুলোর সাথে পরিচয় করান।
- শিশুর সাথে কথা বলুন এবং তার কথা মনোযোগ দিয়ে শুনুন। তাকে ভালোবাসা দিন, তার কথার গুরুত্ব দিন এতে করে শিশুর আত্মবিশ্বাস বাড়বে।

শিশুরা কৌতূহলী, বিভিন্ন বিষয় সম্পর্কে জানতে চায়, প্রশ্ন করে, তা শুনুন ও উত্তর দিন।

- শিশুর কথা ধৈর্য সহকারে শুনুন এবং শিশুর প্রশ্নের উত্তর দিন।
- পরিচিত বিভিন্ন বিষয় নিয়ে আপনার শিশুর সাথে কথা বলুন, গল্প করুন এবং তাকেও কথা বলাতে উৎসাহিত করুন।
- আপনার শিশুকে সহজ সহজ কিছু প্রশ্ন করুন এবং তাকে উত্তর বলতে দিন। যেমন- কলাটির রং কি, এটি কিসের পাত্র, ছাগলটি কি করছে ইত্যাদি।
- আপনার সন্তানকে গল্প বলুন এবং পরবর্তী সময়ে দু'জনে মিলে একটি গল্প তৈরি করুন।
- শিশুকে বাজার, হাট, মেলা ইত্যাদি জায়গায় বেড়াতে নিয়ে যান, মজা করুন ও গল্প করুন। বাইরের পরিবেশের সঙ্গে পরিচয় করিয়ে দিন।

শিশুর সাথে আপনিও বইয়ের দিকে তাকান। শিশুরা যেমন শুনে গল্প শেখে ঠিক তেমনি ছবি দেখেও তারা গল্প শেখে ও বলতে চেষ্টা করে।

- আপনার শিশুকে ছবির বই দেখান, নাম বলুন ও ছবির বর্ণনা করুন। মজার মজার গল্প বলুন।
- আপনিও শিশুর সাথে ছবির বইয়ের দিকে তাকান। ছবি সম্পর্কে খুবই সহজ প্রশ্ন করুন যাতে করে সে কথা বলতে আগ্রহী হয়ে ওঠে এবং উত্তর দেয়।
- শিশুকে নিজে নিজে বইটি ধরতে দিন। সে যেন নিজে নিজে বইটির দিকে তাকায়, পাতা উল্টাতে পারে ও ঠিকভাবে ধরতে পারে, সহযোগিতা করুন।
- বইয়ের ছবি দেখে শিশুকে গল্প বলতে উৎসাহিত করুন।

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আপনার শিশুকে অনেক সময় নিয়ে ধৈর্য সহকারে খাওয়ান।

- শিশুকে ৬ মাস (১৮০ দিন) পর্যন্ত শুধু বুকের দুধ খাওয়ান। শিশুর সাথে ভালো সম্পর্ক তৈরি করুন, শিশুর চোখে চোখ রাখুন, আলতো করে আপনার শিশুর শরীরে হাত বুলিয়ে দিন ও আদর করুন।
- ৬ মাস পর বুকের দুধের পাশাপাশি বাড়ির তৈরি পরিপূরক খাবার দিন।
- আপনার বেড়ে ওঠা শিশুটিকে খাওয়ানোর সময় দু'জন মুখোমুখি বসুন। এখানেও তার চোখে চোখ রাখুন। এতে করে দেখবেন আপনার শিশু খাবার খেতে উৎসাহিত হবে। শিশু পেট ভরে আনন্দ সহকারে খাবে।
- পুরো খাবার শেষ করতে আপনার শিশুকে উৎসাহিত করুন। কিন্তু কোন অবস্থাতেই জোর করবেন না। চেষ্টা করবেন খাবার খেতে দেওয়ার সময় যেন বিভিন্ন রকমের খাবার থাকে। যেমন: নরম খিচুরি, ভাত, ডাল, মাছ, শাক-সবজি, ডিম, মাংস, ফলমূল ইত্যাদি। শিশু যদি কোন নির্দিষ্ট খাবার পছন্দ করে সেক্ষেত্রে সেই খাবারটিই খেতে দিন।
- আপনার শিশুকে নিজে নিজে খেতে উৎসাহিত করুন এবং ধৈর্য সহকারে তাকে সময় দিন। সাধারণত শিশুরা নয় মাস বয়স থেকেই একা একা খেতে আগ্রহী হয়।
- আপনার শিশুকে খাওয়ার জন্য পর্যাপ্ত সময় দিন।
- পরিবারের সবাই মিলে একসাথে খাবেন। খাওয়ার সময় পরিবারের সদস্যরা বিভিন্ন বিষয় নিয়ে ইতিবাচক ও মজার গল্প করুন।

নিজে সাবান দিয়ে হাত পরিষ্কার করুন এবং আপনার শিশুকে সাবান দিয়ে হাত ধুতে উৎসাহিত করুন।

- নিজে খাবার আগে এবং শিশুকে খাওয়ানোর আগে অবশ্যই সাবান দিয়ে হাত ধুয়ে নিন।
- যেসব কাজের পর অবশ্যই সাবান দিয়ে হাত ধুতে হবে-
  - মলমূত্র ত্যাগের পর
  - কোন প্রাণি বা জীবজন্তু স্পর্শ করলে
  - ময়লা পরিষ্কার করলে
  - নাকের ভিতরে হাত দিলে
- আপনার শিশুর হাত প্রায় সময়েই সাবান দিয়ে ধুয়ে দিন। বিশেষ করে সে যখন বাইরে খেলবে এবং অপরিষ্কার কোন কিছু ধরবে।
- যত দ্রুত সম্ভব আপনার শিশুকে শেখান, কিভাবে সাবান দিয়ে হাত ধুতে হয়, এতে শিশু সুস্থ থাকবে।
- আপনার শিশুর হাতের নখ ছোট এবং পরিষ্কার রাখুন।

শিশুকে ভালো ব্যবহার করতে শেখান। শিশু ইতিবাচক আচরণ করলে তাকে প্রশংসা ও উৎসাহিত করুন।

- যে সকল শিশু বাবা-মায়ের সহযোগিতা পায় এবং আনন্দের মাঝে বড় হয় তারা দ্রুত শিখতে পারে তাদের বিকাশ সঠিক হয় এবং তারা একটি সুন্দর জীবন যাপন করতে পারে।
- আপনার শিশু ভুল করলেও তাকে কখনো মারবেন না, তাকে বুঝান। এমনকি যে সব শিশু এখনো কথা বলা শেখেনি তারাও বুঝতে পারে।
- যখন কোন মা-বাবা শিশুর সাথে রাগ করে, তাকে মারে, তাকে ভয় দেখায় তখন-
  - শিশুটি কষ্ট পায় এবং ভীত হয়।
  - আত্মবিশ্বাস কমে যায়।
  - কোন বিষয়কে সহজভাবে না নিয়ে তার পাল্টা জবাব দেয়।
  - তাদের শিক্ষা ও বিকাশে নেতিবাচক প্রভাব পড়ে।
- আপনার শিশুর ভালো আচরণের জন্য প্রশংসা করুন এবং যেসব আচরণ করা ঠিক নয় সেগুলো বলুন।
- শিশুকে নিয়ম মেনে চলার অভ্যাস গড়ে উঠতে সহায়তা করুন। কোন রকম অনিয়ম করলে তাকে শাস্তি না দিয়ে বুঝিয়ে বলুন।
- আপনি যেসব নিয়ম মানেন তা সবসময় মেনে চলবেন এবং তা মেনে চলতে আপনার শিশুকে উৎসাহিত করুন।

- পরিবারের অন্যান্য সদস্যদের সাথে শিশু যত্ন ও লালনের বিষয়গুলো নিয়ে আলাপ করুন এবং নতুন শেখা জ্ঞানগুলোও বলুন, বিশেষত আপনার স্বামী ও শ্বাশুড়ির সাথে।
- প্রতিবেশীদের মা-বাবার সাথে গল্প করার সময় শিশু বিকাশের উপকরণ দেখান এবং সেগুলোর যে উপকারিতা সেসব বিষয়ে কিছু কথা বলুন।
- আপনি নতুন নতুন শিশু যত্ন ও লালন বিষয়ক যেসব তথ্য জানতে পেরেছেন, তা আপনার পরিবারের সদস্য ও প্রতিবেশিদের বলতে উৎসাহিত করুন।
- এসব চর্চার ফলে আপনার শিশুর বুদ্ধি ও বিকাশ কতটা সহজ হবে তা নিয়ে আলোচনা করুন। সম্ভব হলে বিভিন্ন সহজ উদাহরণ দিন বা দেখান।

Household Picture Book

Only a few pages of the household picture presented below. The picture book has 15 pictures.

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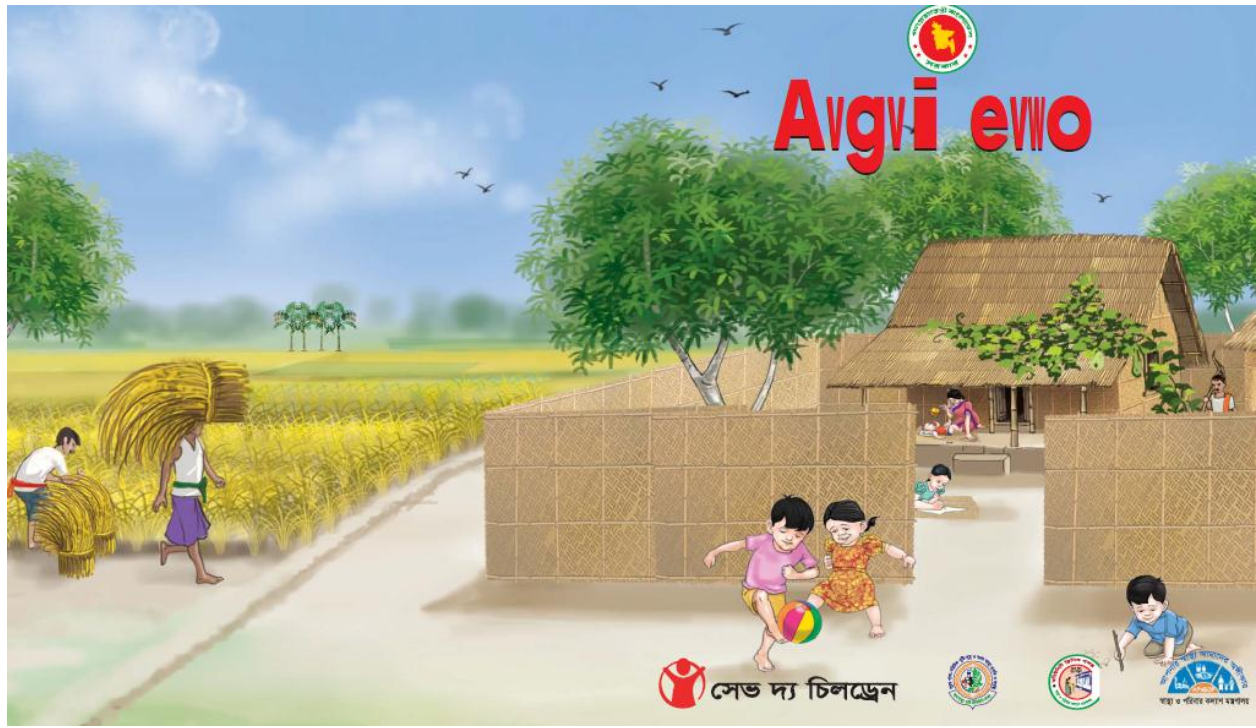
6

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Nature Picture Book

Only a few pages of the nature picture presented below. The nature picture book has 15 pictures.

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Home Visit Guidelines

Save the Children: Early Care and Stimulation Home Visiting Guidelines

The Home Visiting Guidelines are to help frontline workers to support mothers and families to implement the play and communication activities with their young children. It is envisioned that the FWAs or HAs or CHCPs should take no more than 5-8 minutes on this part of the home visit.

Guidelines

1. Worker should explain the purpose of this part of the home visit.

> Purpose: *I would like to spend some time understanding how the child is growing and developing and how the family is supporting the child. If you need any advice, I will do my best to help you.*

2. **If you have visited recently**, ask mother/family if she has been able to implement any of the activities from the card? Does she manage 10-15 minutes a day to play/interact with her child?

3. Ask to see an example of an activity that she is able to do with her child everyday?

> Action: Using the ***Play and Communication Activity Guide***, demonstrate and guide mother through 1-2 play activities suitable for this age group. Praise and encourage mother and child.

4. Ask mother/family how she talks with her baby/child? How does caregiver get her baby/child to smile?

> Action: Using the ***Play and Communication Card*** demonstrate and guide mother through 1-2 talking activities suitable for this age group. Praise and encourage mother and child.

5. Ask if mother/family has any difficulties/challenges in implementing the advice and activities?

> Action: Go through the ***Problem Solving Checklist*** provided. Problem solve with mother/family. Reassure mother and family.

6. Ask if mother/family observed any benefits in implementing the advice and activities?

> Action: Praise mother, child and family

7. Ask if mother/family have any further questions? Ask mother/family if she has any concerns (e.g. child is sick, appears slower to develop)

> Action: Try to answer the question. Make a note of common questions to discuss in the future with your supervisors. During trainings we can also try to solve common problems asked by families.

Thank mother and family. Encourage mother to go to the clinic if needed and to practice the activities at least once day with her child.

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Clinic Visit Guidelines

Save the Children: Early Care and Stimulation Clinic Visit Guidelines

The Clinic Visiting Guidelines are to help frontline workers to support mothers and families to implement the play and communication activities with their young children during a routine or sick visit to the community clinic. It is envisioned that the FWAs or HAs or CHCPs should take no more than 5 minutes on this part of the clinic visit.

Guidelines

1. Worker should explain the purpose of this part of the visit.

> Purpose: *I would like to spend some time understanding how the child is growing and developing and how the family is supporting the child. If you need any advice, I will do my best to help you.*

2. Show the Child Development Card to the mother/family and ask if she already has a copy of it at home.

> Action: If yes, good; if not, give her a Card and the 3 books for the child and explain briefly the purpose of the card and the books. Emphasize that this is the most critical time for her child's development and the time she spends playing and interacting with her child will help her child grown healthy and smart. Make sure mother understands where to look on the card for her child's age.

3. Ask mother/family if she plays with her baby/child?

> Action: Using the ***Play and Communication Card*** demonstrate and guide mother through 1 play activity suitable for this age group. Praise and encourage mother and child.

4. Ask mother/family how she talks with her baby/child? How does caregiver get her baby/child to smile?

> Action: If family doesn't have the book, give mother the books for the child and explain how important it is for the child to look at pictures and learn new words. If there is time, using the ***Play and Communication Card*** demonstrate and guide mother through 1 talking activity suitable for this age group. Praise and encourage mother and child.

5. Ask if mother/family can do these activities at home? Are there any difficulties/challenges she sees in implementing the advice and activities?

> Action: Problem solve with mother/family. Reassure mother and family.

6. Thank mother and family. Encourage mother to keep the card in a visible place so she can remember the activities she can practice at least once day with her child.

Appendix C: Random Assignment of Treatment Status

C.1 Randomization Procedure

The following list of steps describes the randomization procedure followed in this study:

- Stratify by Union to ensure that all Unions will have both treated and control clinics.
- In Unions with an even number of clinics, half were randomly assigned to treatment and half to the control condition.
- Eight Unions (three in Kalaura, two in Muladi, and three in Satkania) contain an odd number of clinics. In the eight Unions with odd numbers of clinics, pairs of clinics were randomly assigned with one to treatment and one to control.
- To ensure that the two Muladi Unions with an odd number of CCs had one CC assigned to treatment, we randomly assigned one CC within each odd Union to treatment and the other to control. Then we randomly assigned two of the remaining Kalaura CCs to either treatment or control, and two of the remaining Satkania Community Clinics to treatment or control. Finally, we randomly assigned the two last Community Clinics (one from Satkania and one from Kalaura) to treatment or control. Table 7 reports the results of randomization by Community Clinic.
- The last clinic was paired with another clinic from a Union with an odd number of clinics, and one was randomly assigned to each status.

Table C1: Randomization Procedure by Upazila and Union

	Upazila	Union	N of Community Clinics	Randomization Process
1		Baramchal	2	Completely at Random (CAR)
2		Bhramman Bazar	4	CAR
3		Hajipur	2	CAR
4		Joychandi	3	CAR for 2; third assigned randomly between other odd CCs in Kalaura or Satkania
5		Kadipur	2	CAR
6	Kalaura	Karmadha	4	CAR
7		Kalaura	5	CAR for 4; fifth assigned randomly between other odd CCs in Kalaura or Satkania
8		Prithempasha	3	CAR for 2; third assigned randomly between other odd CCS in Kalaura or Satkania
9		Routhgaon	2	CAR
10		Tilagaon	4	CAR
		Total in Kalaura	31	

11	Muladi	Char Kalekhan	2	CAR
12		Gachhua	2	CAR
13		Kazir char	3	CAR for 2; third assigned randomly between other odd CCs in Muladi
14		Muladi	3	CAR for 2; third assigned randomly between other odd CCs in Muladi
		Total in Muladi	10	
15	Satkania	Amilaish	2	CAR
16		Aochia	2	CAR
17		Bajalia	2	CAR
18		Charati	4	CAR
19		Dharmapur	2	CAR
20		Kaliaish	2	CAR
21		Kanchana	2	CAR
22		Keochia	3	CAR for 2; third assigned randomly between other odd CCs in Kalaura or Satkania
23		Khagoria	3	CAR for 2; third assigned randomly between other odd CCs in Kalaura or Satkania
24		Madarsa	2	CAR
25		Nalua	2	CAR
26		Paschim Dhemsha	2	CAR
27		Purangor	2	CAR
28		Satkania	2	CAR
29		Sodaha	3	CAR for 2; third assigned randomly between other odd CCs in Kalaura or Satkania
30		Sonakania	2	CAR
		Total in Satkania	37	
		Total	78	

C.2 Randomization Results

Table C2: Post-Randomization Status of Community Clinics by Upazila and Union

Upazila	Union	Treatment Status	Clinic Name
Kalaura	Baramchal	T	Ali nagar Community Clinic
		C	Singore Community Clinic
Kalaura	Bhramman Bazar	T	Helapur Community Clinic
		C	Sreepur Community Clinic
		T	Satra Community Clinic
		C	Gurebui Community Clinic
Kalaura	Hajipur	T	Billerpur Community Clinic
		C	Kaukapon Community Clinic
Kalaura	Joychandi	T	Bairab gong Community Clinic
		C	Gagtia Community Clinic
		C	Mitipur Community Clinic
Kalaura	Kadipur	T	Koula Rasi Community Clinic
		C	Chongor Community Clinic
Kalaura	Karmadha	T	Bodpasa Community Clinic
		C	Monsupur Community Clinic
		T	Hasimpur Community Clinic
		C	Tattiuli Community Clinic
Kalaura	Kalaura	T	Ballisree Community Clinic
		C	Lakkipur Community Clinic
		T	Shayedpur Community Clinic
		C	Minarmohol Community Clinic
		T	Protabi Community Clinic
Kalaura	Prithempasha	T	Rajnagar Community Clinic
		C	Gonkia Community Clinic
		C	Gozbhag Community Clinic
Kalaura	Routhgaon	T	Monoraj Community Clinic
		C	Koula Community Clinic
Kalaura	Tilagaon	T	Mobarakpur Community Clinic
		C	Miarepara Community Clinic
		T	Hajipur Community Clinic
		C	Bijli Community Clinic
Muladi	Char Kalekhan	T	Laxmipur Community Clinic
		C	Shologhar Community Clinic
Muladi	Gachhua	T	Padmarhat Community Clinic
		C	S. Gasua Community Clinic

Muladi	Kazir char	T	N. Kazirchar CC
		C	Boroya Community Clinic
		C	Bahadurpur Community Clinic
Muladi	Muladi	T	S. Goloivanga Community Clinic
		C	Dorir char Laxmipur (Kazirhat) Community Clinic
		T	W. Tero char Community Clinic
Satkania	Amilaish	T	Purba Dalu Community Clinic
		C	Hilimilli Community Clinic
Satkania	Aochia	T	Chonkhola (incharge) Community Clinic
		C	W. Ghatia danga Community Clinic
Satkania	Bajalia	T	Barduara Community Clinic
		C	W.Bazalia Community Clinic
Satkania	Charati	T	South charati Community Clinic
		C	Deepcharati Community Clinic
		T	Tulatuly Community Clinic
		C	Uttar brammandanga Community Clinic
Satkania	Dharmapur	T	Dharmapur Community Clinic
		C	Liaquat Ali Community Clinic
Satkania	Kaliaish	T	Kaliaish Community Clinic
		C	Moleyabad Community Clinic
Satkania	Kanchana	T	Soleman Chowdhury Community Clinic
		C	Nandibari Community Clinic
Satkania	Keochia	T	Jalal Ahmed Community Clinic
		C	Keochia Nandibari Community Clinic
		T	Sonamia Community Clinic
Satkania	Khagoria	T	Moisamora Community Clinic
		C	Rasulpur Community Clinic
		C	Charkhagaria Community Clinic
Satkania	Madarsa	T	Babunagar Community Clinic
		C	Samity ghar Community Clinic
Satkania	Nalua	T	E. Ghatiadanga Community Clinic
		C	Morfala Community Clinic
Satkania	Paschim Dhemsha	T	Isamoti Mojahar Ahmed Community Clinic
		C	Isamoti Community Clinic
Satkania	Purangor	T	Purangar Community Clinic
		C	Monyabad Community Clinic(incharge)
Satkania	Satkania	T	Rupkania Community Clinic
		C	Karaianagar Community Clinic
Satkania	Sodaha	T	Azimpur Community Clinic
		C	Mia para Community Clinic

		T	N, Sadaha Community Clinic
Satkania	Sonakania	T	Garangia Community Clinic
		C	Mirzakhil Community Clinic

C.3 Stata Syntax Used for Randomization

clear all

set more off
set mem 700m

cd "\\Dc1fs\intwork\ASP Region Projects\World Bank Bangladesh\Data\Randomization"

use "cc_by_union.dta", clear

sort upazila union

set seed 12345

*Creating a random number and then sorting by this random variable
generate rannum = uniform()

sort upazila union rannum
bys upazila union: gen order_union=_n
bys upazila union: gen obs_union=_N

gen treatment=.

***** Odd is randomly determined per union
***** Make all the observations that are ordered with an odd number but in a total number that is even treatment
***** Make all the observations that are ordered with an even number and in a total number that is even control

replace treatment=1 if order_union==1 & obs_union==2
replace treatment=0 if order_union==2 & obs_union==2
replace treatment=1 if order_union==1 & obs_union==4
replace treatment=0 if order_union==2 & obs_union==4
replace treatment=1 if order_union==3 & obs_union==4
replace treatment=0 if order_union==4 & obs_union==4

***** Now for the rest fill in based on the order of the rows (randomly determined per union)
***** And do extra randomizations for the observations that are left

```
replace treatment=1 if _n==9
replace treatment=0 if _n==10

**** Not yet number 11

replace treatment=1 if _n==18
replace treatment=0 if _n==19
replace treatment=1 if _n==20
replace treatment=0 if _n==21

**** Not yet number 22

**** Extra randomization for case 11 and 22 in later stage

replace treatment=1 if _n==23
replace treatment=0 if _n==24

***** Not yet number 25

replace treatment=1 if _n==36
replace treatment=0 if _n==37

*** Not yet number 38

**** Extra randomization for case 25 and 38 in later stage

replace treatment=1 if _n==39
replace treatment=0 if _n==40

**** Not yet nr 41

replace treatment=1 if _n==58
replace treatment=0 if _n==59

**** Not yet nr 60

**** Extra randomization for case 41 and 60 in later stage

replace treatment=1 if _n==61
replace treatment=0 if _n==62

**** Not yet nr 63

replace treatment=1 if _n==74
replace treatment=0 if _n==75

*** Not yet nr 76
```

**** Extra randomization 63 and 76 in later stage

```
* Additional randomizations
gen nr=_n

set seed 123456
gen rannum1=uniform() if nr==11 | nr==22 // Between two unions of Kalaura

sort rannum1

replace treatment=1 if _n==1
replace treatment=0 if _n==2


set seed 1234567
gen rannum2=uniform() if nr==38 | nr==41 // Between two unions of Muladi

sort rannum2

replace treatment=1 if _n==1
replace treatment=0 if _n==2

set seed 12345678
gen rannum3=uniform() if nr==60 | nr==63 // Between two unions of Satkania

sort rannum3

replace treatment=1 if _n==1
replace treatment=0 if _n==2

set seed 123456789
gen rannum4=uniform() if nr==25 | nr==76 // Between one from Kalaura and other from Satkania

sort rannum4

replace treatment=1 if _n==1
replace treatment=0 if _n==2

tab  union treatment


label variable treatment "Treatment or Control"
label define treatmentcontrol 0 "control" 1 "treatment"

label values treatment treatmentcontrol

save "H:\ASP Region Projects\World Bank Bangladesh\Data\Randomization\randomization.dta", replace
```

Appendix D: Study Instruments

D.1 Baseline Household (Mother) Survey

V001	**Ques. SL**	
V002	**Child ID No.**	

V003	Date of interview	Day: Month: Year:		
V004	Name of interviewer		Code	

A. Identification (to be filled by enumerator)

Sl	Area	**Name**	**Code**
A001	Household Number		
A002	Para/sub-village		
A003	Village		
A004	Mauza		
A005	Union		
A006	Upazila		
A007	District		
A008	Distance to the **nearest** Community Clinic (to be filled by enumerator)	Distance in Km ___	
A009	Time (in minutes) required using normal mode of transportation		

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A010	Mode of transportation		1 = Walking 2 = Rickshaw/van 3 = Boat 4 = Auto-rickshaw
A011	How long does it take to reach the nearest CC by walking		
A012	How long does it take to reach the nearest CC by using common mode of transport		

B. Household Profile [Note: Demographic Information]

| ID | Name of HH Member (Start with the name of HH head) | Relationship to respondent (Use code) | Sex 1=Male 2=Female | Age (months/ years) | | Is HH member currently attending school 1=Yes 2=No | Highest class passed (Use code) | Religion (Use code) | Ethnicity (Use code) | For members age 7 Years and above | | | |
				Years	Months					Marital Status (Use code)	Can write a letter? 1=Yes 2=No	Activity Status 1= Employed 2=Looking for job 3=Household work 4=Does not work	If employed, field of employment: 1=Agriculture 2=Industries 3=Services
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13
B001													
B002													
B003													
B004													
B005													
B006													
B007													
B008													
B009													
B010													
B011													
B012													

Relationship to intended	1=Intended respondent; 2=Spouse; 3=Son/Daughter; 4=Sibling; 5=Parent; 6=Daughter-in-law/Son-in-law;7=Sister-in-law/Brother-in-law; 8=Father-in-law/Mother-in-law;;

respondent	9 = Grandchild; 10 = Nephew/Niece; 11 = Others (specify); 12 = Grandparent
Marital Status	1=Unmarried; 2=Married; 3=Widowed; 4=Divorced /Separated; 99 = Not Applicable
Religion	1=Muslim, 2=Hindu, 3=Christian, 4=Buddhist, 5= Other
Ethnicity	1=Bengali 2=Tribal, 3=Non-Bengali, 4= Other (specify)
Highest class passed	0=No class, 1=Class 1; 2=Class 2; 3=Class 3; 4=Class 4; 5=Class 5; 6=Class 6; 7=Class 7; 8=Class 8; 9=Class 9; 10=SSC/ Dakhil pass;11=Class 11;, 12=HSC/ Alem pass; 14=Graduate/ Fazil; 16=Masters/Kami; 66=Pre primary school; 67= Qawmi madrasa; 68= Hafezi; 69 = Others (specify)

C. Housing *[Note: SES Information]*

Sl.	Questions and Filters	Coding Categories	Answer
C001	What is the main source of water for drinking for your household?	1=Deep tube well 2=Shallow tube well 3=Tape water supplied through pipes 4=Pond sand filter 5=Rainwater harvesting system 6=Rainwater 7=Pond 8=River/canal 9=Traditional well 10=Other (Specify)	
C002	What type of latrine does your household use? **(Bold type indicates hygienic types)**	**1=Ring-slab/offset latrine (waterseal)** **2=Pit latrine (covered)** 3=Ring-slab/offset latrine (water seal broken) 4=Pit latrine (uncovered) **5=Septic latrine** 6=Hanging/open latrine 7=No toilet facility	
C003	Is it your own latrine? **Interviewer: Observe the latrine**	1= Yes; 2= No	
C004	How many rooms in this household are used for sleeping?	Number	
C005	Does any member of this household own?		
C005a	Auto bike	1= Yes; 2= No	
C005b	Rickshaw	1= Yes; 2= No	
C005c	Bicycle	1= Yes; 2= No	
C005d	Motorcycle/scooter	1= Yes; 2= No	
C005e	Electricity	1= Yes; 2= No	
C005f	Radio	1= Yes; 2= No	
C005g	Television	1= Yes; 2= No	
C005h	Mobile phone	1= Yes; 2= No	
C005i	Non-mobile phone	1= Yes; 2= No	
C005j	Refrigerator	1= Yes; 2= No	
C005k	Almirah/wardrobe	1= Yes; 2= No	
C005l	Table	1= Yes; 2= No	

Sl.	Questions and Filters	Coding Categories	Answer
C005m	Chair	1= Yes; 2= No	
C005n	Electric fan	1= Yes; 2= No	
C005o	DVD/VCR	1= Yes; 2= No	
C005p	Water pump	1= Yes; 2= No	
C006	Does this household own any livestock, herds, other farm animals, or poultry?	1= Yes; 2= No	
C007	How many of the following animals does this household own?		
C007a	Buffaloes	Number	
C007b	Cows	Number	
C007c	Horses/Donkeys/Mules	Number	
C007d	Goat	Number	
C007e	Sheep	Number	
C007f	Chicken	Number	
C008	Does your household own this homestead?	1= Yes; 2= No	
C009	If NO, probe: Does your household own homestead in any other places?	1= Yes; 2= No	
C010	Does your household own any land (other than the homestead land)?	1= Yes; 2= No	
C011	How much land does your household own (other than the homestead land)? (Decimal)	Decimal	
C012	Main material of the floor (record observation)	1=Concrete 2=Brick 3=Wood 4=Clay/Sand 5=Tiles 6=Other (Specify)	
C013	Main material of the roof (record observation)	1=Concrete 2=Wood 3=Talies 4=Bamboo 5= Straw/jute/stick/leaves 6=Thatched/polythene 7=Tin 8=Other (Specify)	

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Sl.	Questions and Filters	Coding Categories	Answer
C014	Main material of the wall (record observation)	1=Concrete 2=Brick 3=Wood 4=Mud 5=Bamboo 6=Straw/jute/stick/leaves 7=Tin 8=Other (Specify)	
C015	What type of fuel does your household mainly use for cooking?	1=Electricity 2=LPG 3=Natural gas 4=Biogas 5= Kerosene 6=Wood 7=Straw/Shrubs/Grass 8=Animal Dung 9=Wood dust/Char coal 10=Other (Specify)	

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D. Private Cost Data Questions for Mother

As you know, some women take up jobs for which they are paid in cash or kind. Others sell things, have a small business or work on the family farm or in the family business

Sl.	Questions	Code	Answer
D001	In the last seven days, have you done any of these things or any other work?	1= Yes; 2= No	
D002	Do you usually work throughout the year, or do you work seasonally, or only once in a while?	1= Throughout the year 2= Seasonally/part of the year 3=Once in a while 4=Do not work	
D003	Are you paid in cash or kind for this work or are you not paid at all?	1=Cash only 2=Cash and kind 3=In kind only 4=Not paid	

Now I will ask you about completely different issues.

Sl.	Questions	Code	Answer
D004	How easy would you say it is for someone in your household to get 500 Taka in cash by tomorrow?	1=Very easy 2=Somewhat easy 3=Neither easy nor difficult 4=Somewhat difficult 5=Very difficult 6=Impossible 7=Other(Specify	
D005	If you are given an opportunity to decide on "receiving 500 Taka today" versus "waiting to receive 750 taka after exactly 7 days", what would you prefer?	1=Receive 500 Taka today 2= Wait exactly 7 days to receive 750 Taka instead	

E. Child Health and Nutrition

Sl	QUESTIONS AND FILTERS	CODING CATEGORIES	Answer
E001	Age of the youngest child (0-18 months)	Months	
E002	Did you ever breastfeed (NAME)?	1=Yes; 2=No; 3=No comment	
E003	How long did you exclusively breastfeed (Name)?	Number of months	
E004	How long after birth did you first put (NAME) to the breast? IF LESS THAN 1 HOUR, RECORD '00' HOURS.	HOURS	
E005	Did you give (NAME) the colostrum (the first milk which is yellow sticky fluid secreted the few days after delivery)?	1=Yes 2=No 3=Don't remember 4= No comment	
E006	Are you still breastfeeding (NAME)?	1=Yes 2=No 3=No comment	
E007	How many times did you breastfeed last night between sunset and sunrise? IF ANSWER IS NOT NUMERIC PROBE FOR APPROXIMATE NUMBER.	NUMBER OF NIGHTTIME FEEDINGS	
E008	How many times did you breastfeed yesterday during the daylight hours? IF ANSWER IS NOT NUMERIC PROBE FOR APPROXIMATE NUMBER.	NUMBER OF DAYLIGHT FEEDINGS	
E009	At any time yesterday or last night, was (NAME) given any liquid or solid food with breastfeeding?	1=Yes 2=No 3=Don't remember 4= No comment	
E010	How many times did you feed (NAME) yesterday or last night	Number of Times	
E011	How many times during last 24 hours (yesterday or last night), was (NAME) given any of the following:		
E011a	Plain water	Number of Times	
E011b	Sugar/honey water	Number of Times	
E011c	Baby formula (Iron)	Number of Times	
E011d	Fresh milk	Number of Times	
E011e	Any other liquid	Number of Times	

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SI	QUESTIONS AND FILTERS	CODING CATEGORIES	Answer
E011f	Tinned or powdered milk	Number of Times	
E011g	Rice/Porridge/wheat	Number of Times	
E0011h	Roots/Tubers (potatoes, sweet potatoes, plantains)	Number of Times	
E0011i	Oils, fats and butter (VitA)	Number of Times	
E011j	Fruits (Mango, Papaya, orange, Jackfruits etc.)-VitA	Number of Times	
E011k	Green leafy vegetables (VitA) Iron	Number of Times	
E011l	Orange and yellow vegetables (Carrots/ pumpkins)-VitA	Number of Times	
E011m	Other fruit/vegetables	Number of Times	
E011n	Egg	Number of Times	
E011o	Fish	Number of Times	
E011p	Poultry	Number of Times	
E011q	Meat/offal/organs	Number of Times	
E011r	Pulse/pea nuts/beans/ground nuts (Iron)	Number of Times	
E011r	Hotchpotch (a preparation of rice and pulses together)	Number of Times	
E011s	Khichuri (a local dish)	Number of Times	
E012	Has (NAME) received a vitamin A capsule like this in the last 6 months? *[avoid if age not 12-23 months, skip to diarrhea]***Interviewer: Show Vitamin A Capsule**	1=Yes 2=No 3= Don't know	
E013	Has (NAME) received ante-helminth (de-worming) within the last 6 months? *[avoid if age not 12-23 months, skip to 14]* **Interviewer: Show de-worming tablet**	1=Yes 2=No 3= Don't know	
E014	Has (NAME) had diarrhea (having loose stool) in the last 2 weeks?	1=Yes; 2=No 3= Don't know	
E015	Has (NAME) had diarrhea AND given Zinc and ORS	1=Yes; 2=No 3= Don't know	
E016	Has [NAME] had major illness in the last 2 weeks?	1=Yes; 2=No 3= Don't know	
E017	Did you seek advice or treatment for this major illness from any source?	1=Yes; 2=No 3= Don't know	
	I will ask about your level of agreement with the following two statements		
E018	Health of my children does not depend on my action but on our fate	1=Strongly disagree 2=Somewhat disagree	

SI	QUESTIONS AND FILTERS	CODING CATEGORIES	Answer
		3=Neither agree nor disagree 4=Somewhat agree 5=Strongly agree	
E019	Health of my children does not depend on my action but on the wishes of almighty Allah/God	1=Strongly disagree 2=Somewhat disagree 3=Neither agree nor disagree 4=Somewhat agree 5=Strongly agree	
E020	What do you and your family members usually use to wash your hands?	1=Soap or detergent (bar, liquid, powder, paste) 2=Ash, mud, sand 3=None / Water 4=Others (specify)	
E021	When do you wash your hands with soap? *Multiple responses possible.* **(DO NOT read the choices but probe and mark all that)**		
E021a	Before food preparation	1=Yes; 2=No	
E021b	Before eating	1=Yes; 2=No	
E021c	Before feeding children	1=Yes; 2=No	
E021d	After defication	1=Yes; 2=No	
E021e	After cleaning babies bottoms	1=Yes; 2=No	
E021f	Others (specify)	1=Yes; 2=No	
E022	Do you use Iodized salt for cooking and with meals?	1=Yes; 2=No 99= Don't know	

F. Pregnant and lactating mothers

Sl	QUESTIONS AND FILTERS	CODING CATEGORIES	Answer
F001	Are you pregnant now?	1=Yes; 2=No	
F002	If yes, how many months have you been pregnant for?	Month(s)	
F003	Did you have any antenatal check-ups during your **(current/ last)** pregnancy?	1=Yes 2=No	
F004	How many check-ups did you have during your **(current/last)** pregnancy?	Number of visits	
F005	Do you have an antenatal card for your **(current/last)** pregnancy? IF Yes: May I see it please?	1=Yes, Seen 2=Yes, Not Seen 3=No Card	
F006	Place of ANC	1=UHC 2=UH&FWC/FWC 3=CC 4=Satellite clinic 5=NGO facility 6=Others (Specify)	
F007	Have you taken Iron/Iron folate in the last 7 days? **(Interviewer: show her the iron/iron folate tablet or capsule)**	1=Yes 2=No	
F008	Did you receive Vita-A after delivery of the child? **(Interviewer: shows her the Vit-A capsule)**	1=Yes 2=No	
F009	After how many days of the delivery you received Vit-A?	Days	

G. Stimulation knowledge/ Family influence

Tell us if you "Agree"=1, "Disagree"=2 or "Not Sure"=3.

Sl.	Statement	Answer
G001	A baby should not be held when he (she) is crying because this will make him (her) want to be held all the time	
G002	Babies do some things just to make trouble for their parents, like crying a long time or pooping	
G003	Infants understand only words they can say	
G004	It is important to talk and sing to your baby	
G005	Talking to a child about things he (she) is doing helps its mental development	
G006	Fathers are naturally clumsy when it comes to taking care of babies	

G007	It is important to teach the baby names of simple objects and colors	
G008	It is important to play games with the baby	

H. Decision Making/Influence of Family Members

Sl.	Who usually makes decisions about the following things: (In order of person most responsible for action; up to 3 responses)	1=Mother; 2=Husband/partner; 3=Respondent and partner jointly; 4= Mother and other family member jointly; 5= Husband and other family member jointly; 6=Mother in law; 7=Father in law; 8=Other		
		1	2	3
	FOOD			
H001	What food is prepared every day?			
H002	How much money the household spends on food			
	MONEY			
H003	Buying important things for the family?			
H004	Who decided how your earnings would be spent?			
	HEALTH			
H005	What to do when a child is seriously ill?			

H006	In the past year, how long has the father been away from the house for work?	(enter 0 for none)	Days	

I. Responsive Feeding

Sl.	Questions	Coding Categories	Answer
I001	When you feed (NAME) and he refuses to eat, do you usually do something to make him/her eat?	1= Yes; 2= No	
I002	When (NAME) refuses to eat, what do you usually do to encourage him/ her to eat? Tell me certain things that you usually do? There can be multiple responses here, so each response must have a yes/no category.		
I00a	Force him to eat	1= Yes; 2= No	
I00b	Beat	1= Yes; 2= No	
I00c	Threaten	1= Yes; 2= No	
I00d	Caress	1= Yes; 2= No	
I00e	Play with him	1= Yes; 2= No	
I00f	Entertainment	1= Yes; 2= No	

I00g	Give other types of food	1= Yes; 2= No	
I00h	Other (specify)	1= Yes; 2= No	

	J. MODIFIED HOME INVENTORY: INFANT TODDLER VERSION	
If no response for any question, write NA as response.		
Caregiver Promotes Child Development		
J001	Do you talk to your child while doing housework? What do you say to him/her? (Note to interviewer: talking/speaking to child means something is said to the child from which he/she can learn something, speaking does not include 'scolding,' or saying 'do this' or 'don't do that.')	Yes=1, No=2
J002	Do you believe the child's behavior can be changed/ modified or influenced by the parents' behavior?	Yes=1, No=2
Organization of Physical and Temporal Environment		
J003	Who usually looks after the child when mother is not around? (note: 'not around' is understood to be away from the home for at least more than two hours)	>2 different people = 0 never leaves/ always the same person or no more than 2 different people=1
J004	A person under 12 years of age sometimes looks after the baby.	Yes, sometimes left alone or with a child <13yrs =0 No always left with someone >12yrs =1
J005	How often in a week does someone usually take the child to any store?	Less than once a week =0 Once a week or more =1
J006	Do you regularly take the child to the health clinic to be weighed or to be immunized? (Note to interviewer: regularly means if the child gets the immunization shots at the appropriate ages.)	Yes=1, No=2
J007	Does the child have a special specific place to keep his/her toys?	Yes=1, No=2
Opportunities for Variety in Daily Stimulation		
J008	In the last 12 months how many times did your family move from their residing location or house?	More than once = 0 No/Once = 1
J009	Do you receive any relatives at your home or take your child to their homes? (Note to interviewer: taking child to relatives' homes means to take them outside for at least 4 hours, it is not about taking them outside the house for a short while.)	None or less than twice a month =0 Twice a month or more =1

SI.		
J010	Usually how many times in a month do your friends' come to your house, or how many times do you take them to their houses? (Note to interviewer: taking child to friends' homes means to take them outside for at least 4 hours, it is not about taking them outside the house for a short while.)	None or less than twice a month =0 Twice a month or more =1	

K. Play materials

Interviewer Say: "I am interested in learning about the things that [CHILD] plays with when he is at home. Say to the mother /caretaker: I want to know about the toys that [child] plays with at home. The toys may be home-made (like clay toys, dolls made of cloths, etc.), household materials (like pots and pans, crockeries, pillow, school bag, mobile phone etc.), bought toys, children books/ picture books (can be bought/received from school or someone free of charge) and the child should have access to play with at home during the last month**.**

Can you please bring me all toys that your child plays with?

(Interviewer: Do not include play at playgroup)

Yes=1, No=2

SI.	Questions	Yes=1, No=2
K001	In the past 30 days, has [CHILD] played with toys that make or play music (e.g. Instrument, stuffed animals that play melodies or any other toy that make noise, but it should be given to child to play)?	
	That makes music like make sound / music, not just noise for example e.g. instruments such as drum, piano, harmonica flute, harmonium,jory, etc. **Interviewer Instruction**: Instruments can be real instruments or toy instruments. Only included things that are played at home)	
K002	In the past 30 days, has the (CHILD) played with materials for drawing and writing (e.g. coloring picture books, crayons, pencils, pens etc.)?	
K003	In the past 30 days, has [CHILD] played at being using toys or objects something or someone else, such as a Mommy, doctor, teacher, hero using toys or objects (e.g. dolls, tea-set/ cups, toy kitchen set and plates for eating)?	
K004	In the past 30 days, has [CHILD] played with toys that (Gross Motor) encourage movement (e.g. balls, small car, skipping rope, bats, rope for swinging, pull-along,	

	push along etc.)?	
K005	How many pictured books are there which are suitable for child? (Please do not include school books).	
K006	How many books are there in the house? (Please include school books but do not include the pictured books of the children).**If there are more than 10 books then record 11.**	
K007	How many magazines and newspaper are in the house? **If there are more than 10 magazines then record 11**	

	Interviewer Say: "In the past 3 days did you spend doing the following activities with [CHILD]?" In the past 3 days, did you or any household member (over 15 years of age) engage in any of the following actives with the child (Name).	
	If yes who engaged this activity with child?, Mother, Father, or any others adult family members of the household (including the Caregiver).**Scoring : Yes=1, No=2, Don't know=9**	
K008	Have you read books, including poem books to the child or showed pictured books to him or her? If yes, who engaged in this activity?	
K008a	Mother	
K008.b	Father	
K008c	Any elder household member (over 15 years of age)?	
K009	Have you told stories or nursery rhymes to the child? If yes, who engaged in this activity?	
K009a	Mother	
K009b	Father	
K009c	Any elder household member (over 15 years of age)?	
K010	Have you sung songs (including lullabies) to the child? If yes, who engaged is this activity?	
K010a	Mother	
K010b	Father	
K010c	Any elder household member (over 15 years of age)?	
K011	Have you played toys with the child? If yes, who engaged is this activity?	
K011a	Mother	
K011b	Father	
K011c	Any elder household member (over 15 years of age)?	
K012	Have you spent time with the child naming, counting, and/or drawing things? If yes, who engaged in these activities?	
K012a	Mother	
K012b	Father	
K012c	Any elder household member (over 15 years of age)?	

L. Maternal Depression

Sometimes we feel good and unhappy other times we feel only good.

Now I want to ask you some questions about how you've been feeling this last week. We may not remember how we felt a long time ago. But we can remember recent feelings. Therefore, I will ask you about the last7 seven days. Explain about the past week (e.g. today is Monday so I want to you tell me how you have been feeling in the past week, from Monday morning to last Sunday night). Whatever we ask you will be kept confidential and will only be used for research purpose.

Sl.	Question	Scoring 0-7days
L001	How many days did you feel so sad?	
L002	How many days did you feel lonely?	
L003	How many days did you feel like crying?	
L004	How many days did you feel enjoyed life?	
L005	How many days did you feel depressed?	
L006	How many days did you feel interest or pleasure in doing things?	

Sl.	Question	
M001	Household profile serial number	
M002	National ID number	
M003	Telephone number	

D.2 Baseline Administrator Survey

Introduction. We are interviewers from Data International. We are currently doing a study together with the American Institutes for Research which aims to understand how community clinics operate in your region and understand your role. For that purposes we have created a small questionnaire. Thank you for your support.

Ques. SL	

	Date of interview	Day: Month: Year:	**Code**
			Interviewer
	Name of interviewer		

A. Identification (to be filled by enumerator)

Sl	Area	Name	Code
1	Name of the person		
2	Position		
3	Office Name		
4	District		
5	Upazila		
6	Union		
7	Distance to the **nearest** Community Clinic	Distance in Km _____ Minutes on foot _____ (to be filled by enumerator)	
8	Phone Number	Could we get your phone number to schedule a follow up conversation?	

B. Description of Administrator Position

1. **Description of the position and its relation with the regional community clinic. What roles do you play and how that affects the local community clinics?**

a) Role [describe]:_____

b) Role [describe]: _____

c) Role [describe]:_____

2. **How would you describe the nature of your contact or role with the community clinic in the region?**
a) Direct- I have been assigned specific role/responsibility
b) I play a supervisory role of staff involved in the clinic
c) Indirect- no specific role but I am in some way attached to its functioning (e.g. committee)
d) No role at all- I have no contact
e) Other [describe]: _____

3. **How many Community Clinics do you supervise?** [Skip if answer "c" or "d" in Q2]

Number of CC	Located in How Many Wards?
a)	b)

4. **With what personnel do you have direct contact?** [Skip if answer "c" or "d" in Q2]
a) Community Health Care Provider (CHCP)
b) Health Assistant (HA)
c) Family Welfare Assistant (FWA)
d) Other [describe]: _____
e) Other [describe]:_____
f) Other [describe]:_____

5. **When you have contact with the personnel <u>described in Q3</u> what kind of issues do you usually discuss with them?**
a) Administrative issues like staffing
b) Functioning like the matters related to government supply to the clinic
c) Service delivery issues like if community people are getting the benefit they are supposed to get
d) Service delivery issues like number of people served
e) Other [describe]: _____
f) Other [describe]: _____
g) Other [describe]:_____

6. **Do you have any mechanism to determine whether Family Welfare Assistants and/or Health Assistants are visiting their assigned households?** [Mark all that apply]

a) No [Go to Q8]
b) Yes, for Family Welfare Assistants
c) Yes, for Health Assistant

7. **If answer is YES in Q6, please describe the mechanism:**
a) _____
_____
b) _____
_____

8. **What are the main reasons why <u>Family Welfare Assistants</u> cannot visit all their assigned households?** [Mark all that apply]
a) All Family Welfare Assistants visit all their assigned households
b) When the household is located very far from the Community Clinic
c) When distance among households is too long
d) Other [describe]: _____
e) Other [describe]: _____
f) Other [describe]: _____

9. **What are the main reasons why <u>Health Assistants</u> cannot visit all their assigned households?** [Mark all that apply]
a) All Health Assistants visit all their assigned households
b) When the household is located very far from the Community Clinic
c) When distance among households is too long
d) Other [describe]: _____
e) Other [describe]: _____
f) Other [describe]: _____

10. **In this office, are there other government officials that play an important role at the local community clinics?**
a) No
b) Yes [Write Position, Name]: _____
c) Yes [Write Position, Name]: _____
d) Yes [Write Position, Name]: _____

NOTE. Please try to interview other government officials that play an important role at the local community clinics.

11. **Are there other government offices or government officials (outside this office), that also play an important role at the local community clinics?**
a) No
b) Yes [Write Position, Name]: _____
c) Yes [Write Position, Name]: _____
d) Yes [Write Position, Name]: _____

NOTE. Please try to interview other government officials that play an important role at the local community clinics.

D.3 Service Provider Survey

Time: 30 minutes

The data collected here will be handled as confidentially as possible. If the results of this study are published or presented, individual names and other personally identifiable information will not be used. Information that could be used to identify villages or community clinic will not be presented.

A. Identification

A001	Service Provider Name	
A002	Gender: 1=Male; 2=Female	
A003	Religion: 1=Islam; 2=Hindu; 3=Christian; 4=Buddhist; 5=Other (specify)	
A004	Age	
A005	Service Provider Position 1=FWA; 2=HA; 3=CHCP	
A006	Service Provider ID number	
A007	Service Provider Mobile/Phone We would like to contact you again to learn more about your work, could you give us your mobile?	
A008	Place of current residence	
A009	Community Clinic where the Service Provider works?	
A010	Name of Union	
A011	Name of Upazila	

B. Education, Experience and Training

B001. Highest class passed (Use code): _____

Highest class passed	0=No class, 1=Class 1, 2=Class 2, 3=Class 3, 4=Class 4, 5=Class 5, 6=Class 6, 7=Class 7, 8=Class 8, 9=Class 9, 10=SSC pass,11=Class 11, 12=HSC pass, 14=Graduate, 16=Masters, 66=Pre primary school

2. Degree and Name of the Degree

		Code	Answer
200a	Do you have any professional degree/diploma?	1=Yes 2=No	
200b	If yes, name the professional degree/diploma?	Name	

3. Working experience

		Year
300a	Total years of working experience as FWA/HA/CHCP?	
300b	Total years of working experience as FWA/HA/CHCP in this Union?	

4. What are your three primary tasks?

	Task	Check box
400a	Provide family planning services	
400b	Supervise the work of other service providers (FWA, HA)	
400c	Look after general well-being of pregnant mothers and children under 3	
400d	Provide health services to children under 5	
400e	Look after malnourished children	
400f	Take care of immunizations	
400g	Take care of diarrhea and fever problems	
400h	Other specify:	
400i	Other specify:	
400j	Other specify:	

5. Have you ever received training on …:

	Training type	1=Yes 2=No
500a	Early Childhood Development?	
500b	Child health?	
500c	Child feeding and nutrition?	
500d	Other child-related training? (specify)	
500e	Other child-related training? (specify)	

C. Workload

1. Now we would like to know more about your workload and the number of Households you are assigned to visit.

I am not assigned to visit households → skip question E.

C100a	How many households are you **assigned** to visit each month?	No. of HH	
C100b	How many households are you supposed to visit each day?	No. of HH	
C100c	How many **days** per week are you **supposed** to work?	Days	
C100d	How many **hours** per day are you **supposed** to work?	Hours	

2. We understand that due to several reasons you may end up visiting less households or working less or more days/hours per week/day if so, please answer:

C200a	Approximately how many households were you able to visit **last**	No. of HH	

	month?		
C200b	Approximately, how many households were you able to visit **in your last day of work**?	No. of HH	
C200c	How many **days** per week do you **normally** work?	Days	
C200d	How many **hours** per day do you **normally** work?	Hours	

3. What are the **main three reasons** that explain why you usually cannot visit all assigned households?

	Reasons	Check box
C300a	I have more households than I can handle	
C300b	Distance among households is too long	
C300c	Households do not cooperate because (specify)	
C300d	Reschedule visit to particular household because (specify)	
C300e	I have other responsibilities in satellite clinics	
C300f	I have other responsibilities in Family Welfare Centers (FWC)	
C300g	I have other responsibilities in Expand Promotion of Immunizations (EPI) Center	
C300h	Other specify:	
C300i	Other specify:	
C300j	Other specify:	

D. Time Spent With Each Household

D001**. Remember your last working day when you had to visit households;** on average how many minutes did you spend with each household?
Average number of minutes: _____

D002. Do you spend more time with certain types of households; if so with which type of households are you likely to spend more time? Mark the three main types of households and the average number of minutes.

	Descriptors of the household	Check Box	Average Number of minutes
		Q1	Q2
D200a	Household with a sick child		
D200b	Household with multiple children		
D200c	Household with depressed mother		
D200d	Poorer households		
D200e	Household with pregnant women		
D200f	More friendly households		
D200g	Other specify:		
D200h	Other specify:		
D200i	Other specify:		

E. Perceptions about the importance of Early Childhood Development (ECD)

For mothers with children under 3 years old, how important do you think is to?

		1=Unimportant 2=Important 3=Not Sure
E001	Teach mothers how to talk with their children and how to respond to children's attempt to talk?	
E002	Teach mothers how to care for their children's health?	
E003	Teach mothers what food they should feed their children?	
E004	Teach mothers how to respond to children's cues?	
E005	Teach mothers how to play games with their children?	

F. Understanding how community clinics operate

Who supervises your job?

		Mark all that apply
F001	Community Health Care Provider (CHCP)	
F002	Family Planning Inspector (FPI)	
F003	Health Inspector (HI)	
F004	Family Welfare Visitor (FWV)	
F005	Sub Assistant Community Medical Officer (SACMO)	
F006	Assistant Health Inspector (AHI)	
F007	Other specify:	

G. Job Satisfaction

	Question	Code	Answer
G001	How satisfied are you with the work you are doing?	1 2 3 4 5 1=Very dissatisfied 5=Very satisfied	
G002	What value do you think the community puts on your service?	1 2 3 4 5 1=None 5=Very great	
G003	In your daily work, how free are you to make decisions and to act on them?	1 2 3 4 5 1=Not at all 2=Very free	
G004	How much recognition does your supervisor show for a job well done?	1 2 3 4 5 1=None 5=Great deal	

V001	Date of interview	Day:	Month:	Year:	
V002	Name of interviewer			Code	

D.4 Baseline Non-Compliers Survey

The questions below should be asked to households that do not want to participate in this study. This lack of interest could be reflected in different ways:

a) The respondent outright rejects participation in the survey

b) Does not want to participate in the household survey after the initial introduction about the nature of survey

c) The respondent shows disinterest mid- way and or refuse to answer many questions (resulting in an incomplete survey

d) Respondent refuses to answer more than 20 percent of the questions which were not at all of sensitive type(such as income or extremely personal)

e) Other [describe]:_____

f) The actual respondent was not found/home:

	Visit 1	Visit 2	Visit 3
Date			

V002	Ques. SL	

	Date of interview	Day:	Month:	Year:	Code Interviewer
	Name of interviewer				

C. Identification (to be filled by enumerator)

Sl	Area	Name	Code
a1	Unique child ID		
a2	Census Number		
a3	Para/sub-village		
a4	Village (Mauza)		
a5	Union		
a6	Upazila		
a7	District		

a8	Number of minutes it takes <u>on foot</u> to reach the nearest community clinic	Minutes on foot _____	
a9	Number of minutes it takes by <u>rickshaw or the most common means of transportation</u> to reach the nearest community clinic	Minutes on rickshaw/other transportation _____	

B. Characteristics of the Household

1. **What is the reason(s) you do not want to participate in the study/or answer the majority of the questions?** [Mark all that apply]
a) My husband will not approve this participation and I may face trouble
b) I may face trouble in my courtyard/neighborhood if I would participate
c) I am not sure how I will benefit answering the survey
d) I think I cannot afford the time needed to complete the survey as I have other things to do
e) I think it will take longer than and I could not finish my work(household)
f) I have more important thing to do than answering your questions
g) My previous experience with similar survey was not very pleasant
h) I think you might ask questions that are too sensitive for me
i) Surveys are useless as they do not benefit poor
j) Whether anticipate any trouble or criticism for participation
k) Reason not known (respondent did not want to talk at all)
l) Other [describe]: _____

2. Level of Education:
Years of schooling completed by   The mother: [____]   The father: [____]
NOTE. N of years of education counting from the first grade of Primary

3. **Are any children in the household suffering from any illness (e.g. diarrhea, fever, cough, rapid breathing, etc.)?**
a) Yes
b) No
c) No response
d) Parent does not know

4. **Are all children aged 5 above enrolled in school?**
a) Yes
b) No
c) No response

    d) Parent does not know

5. Have you participated in any kind of survey in the past?
a) Yes
b) No
c) No response
d) Does not know/remember

NOTE. Enumerators should observe/gather the following information without asking the respondent.

6. Was the husband home at the time of the survey?
e) Yes
f) No
g) No response

7. How many household members live in this household? ☐☐☐☐☐☐☐☐☐
If unknown enter 99

8. Number of rooms in the household: ☐☐☐
If unknown enter 99

Anthropometric Measurement

AM001	Mother's and Child weight together	☐☐.☐☐ KG
AM002	Mother's weight	☐☐.☐☐ KG
AM003	Child's weight (Who stand properly)	☐☐.☐☐ KG
AM004	Child's height/length	☐☐.☐☐ CM
AM005	Head Circumference	☐☐.☐☐ CM

Appendix E: Summary Statistics of Baseline Data

Figure 1. Distribution of Anthropometric Measures by Gender
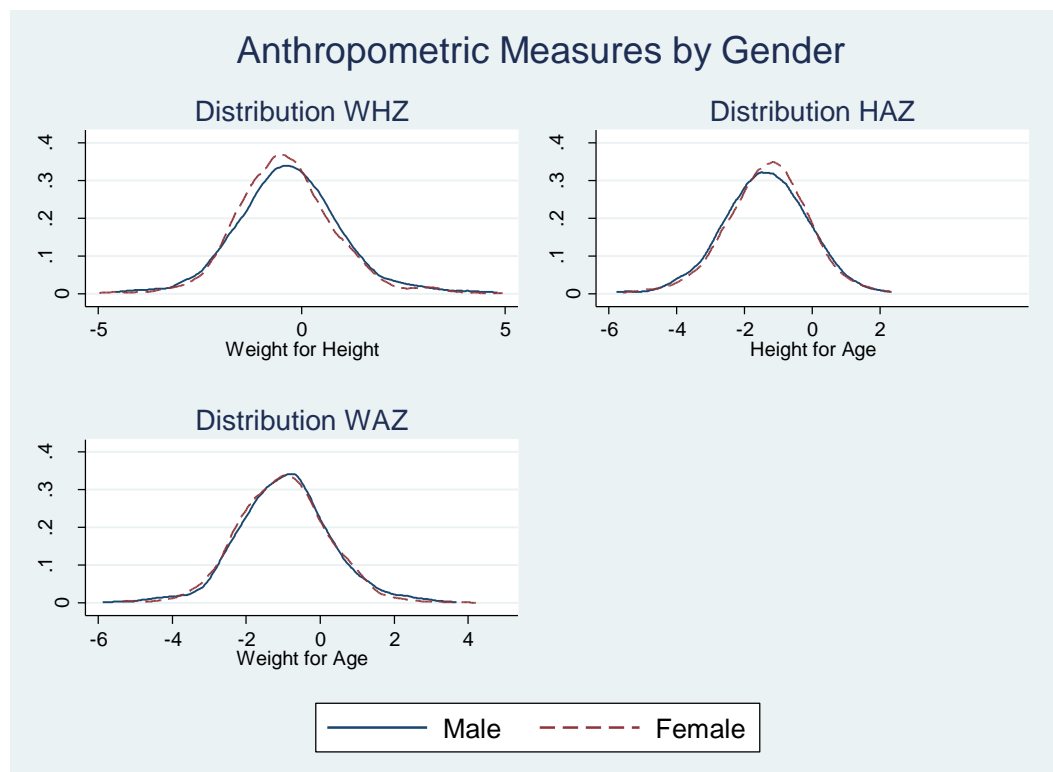
E.1 Child Health and Nutrition Characteristics

Table 1: Breastfeeding Practices for the Selected Child

Variables	Control Mean	N1	Treatment Mean	N2	T-C Diff	Diff SE	Diff p-value	Diff ES
Ever breastfed	1.000	1,287	1.000	1,287	0.000	0.000		
Exclusively breastfed (six or more months)[1]	0.922	945	0.912	940	-0.010	0.019	0.601	-0.036
Months exclusively breastfed	5.224	1,287	5.118	1,287	-0.106	0.162	0.516	-0.057
N Hours after birth child was put to the breast	2.498	1,282	2.628	1,281	0.131	0.439	0.767	0.012
Child was given colostrum	0.977	1,266	0.975	1,273	-0.002	0.008	0.768	-0.015
Currently breastfed	0.977	1,287	0.980	1,287	0.003	0.007	0.669	0.021
Number of night breast-feedings (prior night)	4.680	1,257	4.867	1,261	0.187	0.143	0.195	0.090
Number of day breast-feedings (prior day)	6.649	1,256	7.023	1,261	0.374	0.190	0.052	0.126
Child was given liquids or solid foods with breastfeeding (five months or younger)[2]	0.230	74	0.337	83	0.108	0.074	0.163	0.237
Child was given liquids or solid foods with breastfeeding (six or more months)[1]	0.932	1,182	0.945	1,176	0.012	0.011	0.246	0.052

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points except where indicated.

[1]Reported for children six months or more only.

[2]Reported for children five months or younger only (includes 15 children of three months, 50 children of four months, and 92 children of five months).

Table 2: Micronutrients and Food Diversity

Variables	Control Mean	N1	Treatment Mean	N2	T-C Diff	Diff SE	Diff p-value	Diff ES
Micronutrients child received…:								
Vitamin A capsule in last six months (Ages 11-18 months)	0.765	732	0.754	684	-0.011	0.033	0.747	-0.025
Do you use Iodized salt for cooking and with meals?	0.858	1,264	0.834	1,268	-0.024	0.037	0.518	-0.066
Food Diversity								
Minimum times fed (%)	0.737	1,133	0.790	1,139	0.053	0.036	0.141	0.125
Diet diversity (%)	0.504	1,207	0.501	1,222	-0.003	0.040	0.942	-0.006
How many times during last 24 hours child was given any of the following:								
Water	0.900	1,207	0.896	1,222	-0.004	0.017	0.831	-0.012
Sugar/honey water	0.099	1,207	0.136	1,222	0.037	0.019	0.049	0.116
Baby formula	0.074	1,207	0.080	1,222	0.006	0.014	0.632	0.024
Fresh milk	0.108	1,207	0.097	1,222	-0.011	0.015	0.465	-0.037
Other liquids	0.118	1,207	0.130	1,222	0.012	0.025	0.644	0.035
Tinned or powdered milk	0.070	1,207	0.065	1,222	-0.005	0.013	0.708	-0.020
Rice/porridge/wheat	0.762	1,207	0.799	1,222	0.036	0.034	0.279	0.088
Roots/tubers	0.437	1,207	0.453	1,222	0.016	0.039	0.685	0.032
Fats/oils/butter	0.401	1,207	0.433	1,222	0.032	0.044	0.468	0.065
Fruits	0.144	1,207	0.138	1,222	-0.006	0.023	0.801	-0.017
Green leafy vegetables	0.251	1,207	0.255	1,222	0.004	0.039	0.912	0.010
Orange and yellow vegetables	0.078	1,207	0.070	1,222	-0.008	0.014	0.582	-0.029
Other fruit/vegetables	0.152	1,207	0.162	1,222	0.010	0.036	0.773	0.029
Egg	0.235	1,207	0.223	1,222	-0.013	0.027	0.639	-0.030
Fish	0.303	1,207	0.267	1,222	-0.036	0.032	0.248	-0.081
Poultry	0.058	1,207	0.062	1,222	0.004	0.014	0.761	0.018
Meat/offal/organs	0.062	1,207	0.054	1,222	-0.008	0.014	0.548	-0.035
Pulse/pea nuts/beans/ground nuts	0.259	1,207	0.271	1,222	0.012	0.028	0.681	0.026
Khichuri	0.164	1,207	0.165	1,222	0.001	0.023	0.956	0.003

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points except where indicated..

Table 3: Morbidity and Treatment for Illness

Variables	Control		Treatment		T-C Diff	Diff SE	Diff p-value	Diff ES
	Mean	N1	Mean	N2				
Morbidity								
Child had diarrhea last two weeks	0.117	1,287	0.124	1,284	0.007	0.017	0.663	0.022
Child had major illness last two weeks	0.141	1,287	0.179	1,285	0.038	0.022	0.082	0.105
Treatment for Illness *Reported only for those who answered having a major illness in the last two weeks*								
Sought treatment for diarrhea last two weeks	0.860	150	0.900	160	0.040	0.043	0.339	0.123
Sought treatment for major illness last two weeks	0.950	181	0.922	231	-0.028	0.027	0.315	-0.114
Ante-helminth (De-worming) in last six months (Ages 12-18 months)	0.282	705	0.283	647	0.001	0.034	0.987	0.001

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points except where indicated.

Table 4: Hand Washing Practices

Variables	Control		Treatment		T-C Diff	Diff SE	Diff p-value	Diff ES
	Mean	N1	Mean	N2				
Family members use soap or detergent to wash hands	0.896	1,287	0.891	1,286	-0.005	0.024	0.844	-0.015
Mother washes hands before food preparation	0.252	1,287	0.231	1,287	-0.021	0.035	0.549	-0.049
Mother washes hands before eating	0.460	1,287	0.437	1,287	-0.023	0.047	0.630	-0.045
Mother washes hands before feeding children	0.546	1,287	0.510	1,287	-0.037	0.036	0.312	-0.073
Mother washes hands after defecation	0.914	1,287	0.895	1,287	-0.019	0.018	0.305	-0.063
Mother washes hands after cleaning babies' bottoms	0.803	1,287	0.781	1,287	-0.023	0.024	0.351	-0.056

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points except where indicated.

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Table 5: Responsive Feeding Practices

Variables	Control		Treatment		T-C Diff	Diff SE	Diff p-value	Diff ES
	Mean	N1	Mean	N2				
Mother practices any positive feeding practices (%)	0.695	1,287	0.696	1,287	0.002	0.036	0.965	0.003
Mother practices any negative feeding practices, including not encouraging to eat	0.597	1,287	0.590	1,287	-0.007	0.031	0.824	-0.014
Scale of positive feeding practices (0-4)	1.625	1,287	1.610	1,287	-0.015	0.112	0.896	-0.011
Scale of negative feeding practices (0-3)	0.725	1,287	0.745	1,287	0.020	0.044	0.648	0.028
When child refuses to eat, mother does something to make them eat such as…	0.739	1,287	0.752	1,287	0.013	0.037	0.718	0.030
Force child to eat	0.386	951	0.414	968	0.028	0.036	0.435	0.058
Beat child	0.060	951	0.097	968	0.037	0.017	**0.025**	0.138
Threaten child	0.182	951	0.150	968	-0.032	0.022	0.151	-0.086
Caress child	0.842	951	0.831	968	-0.012	0.026	0.654	-0.032
Play with child	0.652	951	0.606	968	-0.046	0.044	0.305	-0.094
Entertainment	0.456	951	0.407	968	-0.049	0.039	0.205	-0.100
Give other types of food	0.248	951	0.296	968	0.048	0.037	0.188	0.109

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points except for the scales.

Table 6: Pregnancy and Antenatal Care

Variables	Control		Treatment		T-C Diff	Diff SE	Diff p-value	Diff ES
	Mean	N1	Mean	N2				
Mother currently pregnant	0.021	1,287	0.023	1,286	0.002	0.006	0.704	0.016
Mother had antenatal check-ups during current/last pregnancy	0.823	1,287	0.821	1,286	-0.002	0.024	0.943	-0.004
Number of antenatal check-ups during current/last pregnancy	3.838	1,057	3.662	1,055	-0.177	0.163	0.281	-0.080

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points except where indicated.

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E.2 Service Providers Characteristics

Table 7: Service Providers' Demographics, Education, and Working Experience

Variables	Control Mean	N1	Treatment Mean	N2	T-C Diff	Diff SE	Diff p-value	Diff ES
Female	0.753	89	0.723	101	-0.030	0.064	0.640	-0.068
Religion: Muslim	0.753	89	0.644	101	-0.109	0.066	0.103	-0.237
Age (years)	36.820	89	34.713	101	-2.107	1.625	0.196	-0.189
Primary	0.045	89	0.030	101	-0.015	0.028	0.580	-0.081
Secondary	0.697	89	0.584	101	-0.112	0.069	0.108	-0.233
Graduate	0.258	89	0.386	101	0.128	0.067	0.062	0.272
Total years of working experience	14.225	89	11.590	101	-2.635	1.684	0.119	-0.227
Total years of working experience in this union	11.790	87	10.214	101	-1.575	1.688	0.352	-0.137

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points except where indicated.

Table 8: Service Providers' Primary Task and Training

Variables	Control Mean	N1	Treatment Mean	N2	T-C Diff	Diff SE	Diff p-value	Diff ES
Primary task is to…:								
Provide family planning services	0.461	89	0.475	101	0.015	0.073	0.841	0.029
Supervise the work of other service providers (FWA, HA)	0.067	89	0.059	101	-0.008	0.036	0.821	-0.033
Look after wellbeing of pregnant mothers, children under 3	0.865	89	0.931	101	0.066	0.044	0.137	0.218
Provide health services to children under 5	0.663	89	0.634	101	-0.029	0.070	0.674	-0.061
Look after malnourished children	0.169	89	0.218	101	0.049	0.057	0.393	0.124
Take care of immunizations	0.472	89	0.376	101	-0.096	0.072	0.184	-0.193
Take care of diarrhea and fever problems	0.303	89	0.307	101	0.004	0.067	0.958	0.008
SP received training on..:								
Early Childhood Development	0.551	89	0.515	101	-0.036	0.073	0.623	-0.071
Child health	0.573	89	0.564	101	-0.009	0.072	0.904	-0.017
Child feeding and nutrition	0.674	89	0.723	101	0.049	0.067	0.467	0.106
Other child-related training	0.090	89	0.238	101	0.148	0.052	0.007	0.394

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points except where indicated.

Table 9: Service Providers' Assigned and Actual Workload

Variables	Control Mean	N1	Treatment Mean	N2	T-C Diff	Diff SE	Diff p-value	Diff ES
Assigned workload								
How many households are you assigned to visit each month?	902.047	64	905.217	69	3.171	104.034	0.976	0.005
How many households are you supposed to visit each day?	55.646	65	58.435	69	2.789	5.714	0.626	0.084
How many days per week are you supposed to work?	5.846	65	5.899	69	0.052	0.103	0.613	0.088
How many hours per day are you supposed to work?	7.016	64	7.000	69	-0.016	0.156	0.920	-0.018
Actual workload								
Approximately, how many households were you able to visit last month?	770.344	64	784.319	69	13.975	92.061	0.880	0.026
Approximately, how many households were you able to visit in your last day of work?	53.391	64	53.809	68	0.418	5.401	0.938	0.014
How many days per week do you normally work?	5.841	63	5.768	69	-0.073	0.132	0.581	-0.097
How many hours per day do you normally work?	7.016	63	7.000	69	-0.016	0.153	0.918	-0.018
On average, how many minutes did you spend with each household?	16.175	63	13.403	67	-2.772	1.491	0.065	-0.325

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact.

Table 10: Main Reason Service Providers Cannot Visit All Assigned Households

Variables	Control Mean	N1	Treatment Mean	N2	T-C Diff	Diff SE	Diff p-value	Diff ES
I have more households than I can handle	0.538	65	0.754	69	0.215	0.081	0.010	0.449
Distance among households is too long	0.538	65	0.609	69	0.070	0.086	0.413	0.142
Households do not cooperate	0.031	65	0.029	69	-0.002	0.030	0.952	-0.010
Reschedule visit to particular household	0.123	65	0.029	69	-0.094	0.046	0.045	-0.357
Other responsibilities in satellite clinic	0.492	65	0.406	69	-0.087	0.086	0.316	-0.173
Other responsibilities in FWC	0.200	65	0.072	69	-0.128	0.059	0.033	-0.373
Other responsibilities in EPI center	0.615	65	0.652	69	0.037	0.084	0.660	0.076

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points except where indicated.

Table 11: FWA Demographics, Education and Working Experience

Variables	Control		Treatment		T-C	Diff	Diff	Diff
	Mean	N1	Mean	N2	Diff	SE	p-value	ES
Female	1.000	32	1.000	32	0.000	0.000		
Religion: Muslim	0.688	32	0.563	32	-0.125	0.122	0.309	-0.256
Age (years)	44.656	32	41.563	32	-3.094	2.928	0.295	-0.264
Primary	0.125	32	0.094	32	-0.031	0.079	0.694	-0.099
Secondary	0.875	32	0.844	32	-0.031	0.088	0.724	-0.089
Graduate	0.000	32	0.063	32	0.063	0.043	0.155	0.356
Total years of working experience as FWA	23.284	32	19.637	32	-3.647	3.005	0.229	-0.302
Total years of working experience as FWA in this union	21.068	31	19.200	32	-1.868	3.097	0.549	-0.152

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points except where indicated.

Table 12: HA Demographics, Education and Working Experience

Variables	Control		Treatment		T-C	Diff	Diff	Diff
	Mean	N1	Mean	N2	Diff	SE	p-value	ES
Female	0.606	33	0.730	37	0.124	0.114	0.281	0.261
Religion: Muslim	0.758	33	0.649	37	-0.109	0.110	0.325	-0.236
Age (years)	37.515	33	36.757	37	-0.758	2.056	0.713	-0.089
Primary	0.000	33	0.000	37	0.000	0.000		
Secondary	0.667	33	0.486	37	-0.180	0.118	0.131	-0.361
Graduate	0.333	33	0.514	37	0.180	0.118	0.131	0.361
Total years of working experience as HA	14.335	33	12.950	37	-1.385	2.035	0.498	-0.164
Total years of working experience as HA in this union	10.322	32	9.623	37	-0.699	2.200	0.752	-0.078

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points except where indicated.

Table 13: CHCP Demographics, Education and Working Experience

Variables	Control Mean	N1	Treatment Mean	N2	T-C Diff	Diff SE	Diff p-value	Diff ES
Female	0.625	24	0.438	32	-0.187	0.135	0.169	-0.372
Religion: Muslim	0.833	24	0.719	32	-0.115	0.112	0.311	-0.269
Age (years)	25.417	24	25.500	32	0.083	0.724	0.909	0.030
Primary	0.000	24	0.000	32	0.000	0.000		
Secondary	0.500	24	0.438	32	-0.062	0.137	0.650	-0.124
Graduate	0.500	24	0.563	32	0.062	0.137	0.650	0.124
Total years of working experience as CHCP	1.995	24	1.969	32	-0.026	0.047	0.579	-0.138
Total years of working experience as CHCP in this union	1.763	24	1.913	32	0.150	0.133	0.267	0.318

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points except where indicated.

Table 14: FWAs' Primary Task and Training

Variables	Control Mean	N1	Treatment Mean	N2	T-C Diff	Diff SE	Diff p-value	Diff ES
Primary task is to…:								
Provide family planning services	1.000	32	1.000	32	0.000	0.000		
Supervise the work of other service providers	0.125	32	0.063	32	-0.063	0.074	0.399	-0.213
Look after wellbeing of pregnant mothers, children under three	0.969	32	0.969	32	0.000	0.044	1.000	0.000
Provide health services to children under five	0.656	32	0.625	32	-0.031	0.122	0.798	-0.065
Look after malnourished children	0.000	32	0.063	32	0.063	0.043	0.155	0.356
Take care of immunizations	0.250	32	0.281	32	0.031	0.112	0.781	0.070
Take care of diarrhea and fever problems	0.000	32	0.000	32	0.000	0.000		
FWA received training on..:								
Early Childhood Development	0.625	32	0.688	32	0.063	0.120	0.605	0.131
Child health	0.375	32	0.313	32	-0.063	0.120	0.605	-0.131
Child feeding and nutrition	0.469	32	0.531	32	0.063	0.127	0.624	0.124
Other child-related training	0.000	32	0.156	32	0.156	0.065	0.020	0.578

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points except where indicated.

Table 15: HAs' Primary Task and Training

Variables	Control Mean	N1	Treatment Mean	N2	T-C Diff	Diff SE	Diff p-value	Diff ES
Primary task is to…:								
Provide family planning services	0.091	33	0.108	37	0.017	0.073	0.813	0.057
Supervise the work of other service providers	0.061	33	0.081	37	0.020	0.062	0.742	0.079
Look after wellbeing of pregnant mothers, children under three	0.848	33	0.973	37	0.124	0.069	0.075	0.442
Provide health services to children under five	0.697	33	0.703	37	0.006	0.111	0.959	0.012
Look after malnourished children	0.182	33	0.162	37	-0.020	0.092	0.831	-0.052
Take care of immunizations	0.879	33	0.784	37	-0.095	0.090	0.293	-0.250
Take care of diarrhea and fever problems	0.242	33	0.189	37	-0.053	0.100	0.596	-0.129
HA received training on..:								
Early Childhood Development	0.485	33	0.351	37	-0.133	0.119	0.265	-0.269
Child health	0.636	33	0.622	37	-0.015	0.117	0.900	-0.030
Child feeding and nutrition	0.848	33	0.865	37	0.016	0.085	0.848	0.046
Other child-related training	0.152	33	0.297	37	0.146	0.099	0.146	0.345

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points except where indicated.

Table 16: CHCPs' Primary Task and Training

Variables	Control Mean	N1	Treatment Mean	N2	T-C Diff	Diff SE	Diff p-value	Diff ES
Primary task is to…:								
Provide family planning services	0.250	24	0.375	32	0.125	0.125	0.323	0.265
Supervise the work of other service providers (FWA, HA)	0.000	24	0.031	32	0.031	0.031	0.323	0.234
Look after wellbeing of pregnant mothers, children under three	0.750	24	0.844	32	0.094	0.111	0.403	0.234
Provide health services to children under five	0.625	24	0.563	32	-0.062	0.135	0.644	-0.126
Look after malnourished children	0.375	24	0.438	32	0.062	0.135	0.644	0.126
Take care of immunizations	0.208	24	0.000	32	-0.208	0.084	0.017	-0.724
Take care of diarrhea and fever problems	0.792	24	0.750	32	-0.042	0.115	0.718	-0.098
CHCP received training on..:								
Early Childhood Development	0.542	24	0.531	32	-0.010	0.137	0.940	-0.021
Child health	0.750	24	0.750	32	0.000	0.119	1.000	0.000

Child feeding and nutrition	0.708	24	0.750	32	0.042	0.122	0.735	0.093
Other child-related training	0.125	24	0.250	32	0.125	0.104	0.234	0.312

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points except where indicated.

Table 17: FWAs' Assigned and Actual Workload

Variables	Control Mean	N1	Treatment Mean	N2	T-C Diff	Diff SE	Diff p-value	Diff ES
Assigned Workload								
How many households are you assigned to visit each month?	461.250	32	467.781	32	6.531	47.875	0.892	0.034
How many households are you supposed to visit each day?	36.656	32	37.875	32	1.219	4.102	0.767	0.075
How many days per week are you supposed to work?	5.813	32	5.875	32	0.063	0.120	0.605	0.131
How many hours per day are you supposed to work?	6.844	32	6.781	32	-0.063	0.210	0.767	-0.075
Actual Workload								
Approximately, how many households were you able to visit last month?	422.484	31	436.656	32	14.172	33.550	0.674	0.107
Approximately, how many households were you able to visit in your last day of work?	35.097	31	36.774	31	1.677	3.647	0.647	0.118
How many days per week do you normally work?	5.871	31	5.625	32	-0.246	0.184	0.187	-0.332
How many hours per day do you normally work?	6.839	31	6.750	32	-0.089	0.218	0.686	-0.103
On average how many minutes did you spend with each household?	19.903	31	16.156	32	-3.747	2.006	0.066	-0.463

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points except where indicated.

Figure 2: Approximate Number of Households FWA Visited in Last Day of Work

N approx. of households visited in last day of work by FWA
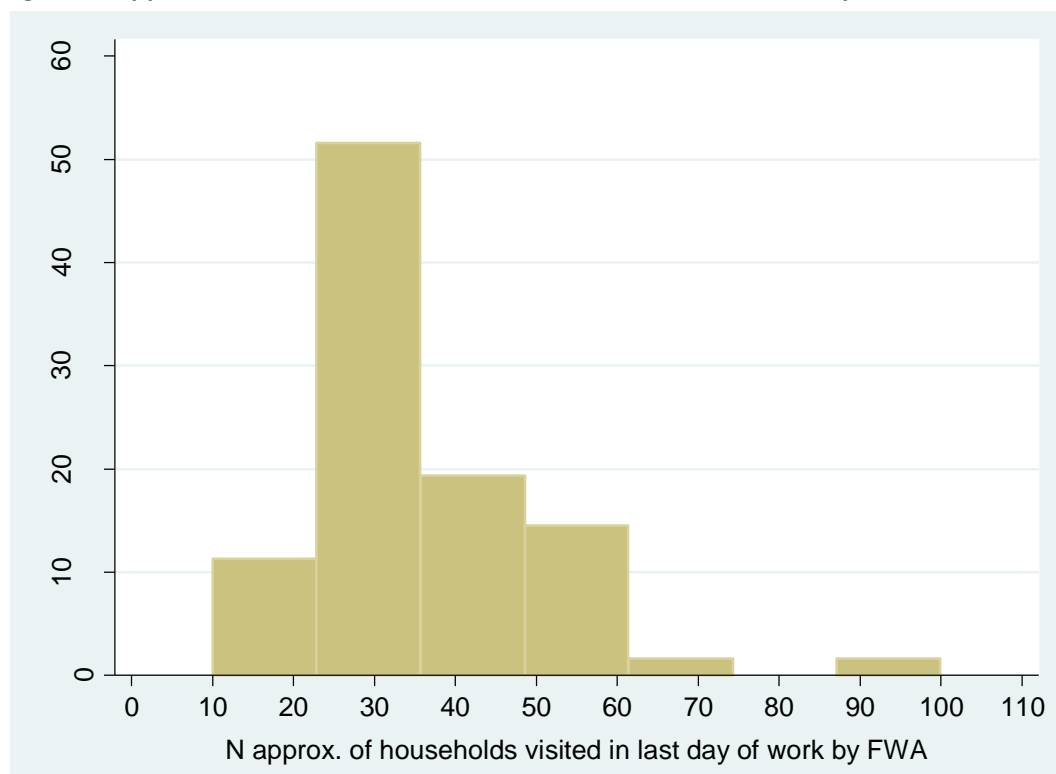
Table 18: HAs' Assigned and Actual Workload

Variables	Control Mean	N1	Treatment Mean	N2	T-C Diff	Diff SE	Diff p-value	Diff ES
Assigned Workload								
How many households are you assigned to visit each month?	1,342.844	32	1,283.541	37	-59.303	134.209	0.660	-0.107
How many households are you supposed to visit each day?	74.061	33	76.216	37	2.156	8.165	0.793	0.063
How many days per week are you supposed to work?	5.879	33	5.919	37	0.040	0.165	0.809	0.059
How many hours per day are you supposed to work?	7.188	32	7.189	37	0.002	0.227	0.994	0.002
Actual Workload								
Approximately, how many households were you able to visit last month?	1,097.121	33	1,085.000	37	-12.121	134.165	0.928	-0.022
Approximately, how many households were you able to visit in your last day of work?	70.576	33	68.081	37	-2.495	8.024	0.757	-0.076
How many days per week do you normally work?	5.813	32	5.892	37	0.079	0.192	0.680	0.103
How many hours per day do you normally work?	7.188	32	7.216	37	0.029	0.210	0.892	0.034

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| | 12.563 | 32 | 10.886 | 35 | -1.677 | 1.928 | 0.388 | -0.215 |

On average how many minutes did you spend with each household?

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points except where indicated.

Figure 3: Approximate Number of Households HA Visited in Last Day of Work
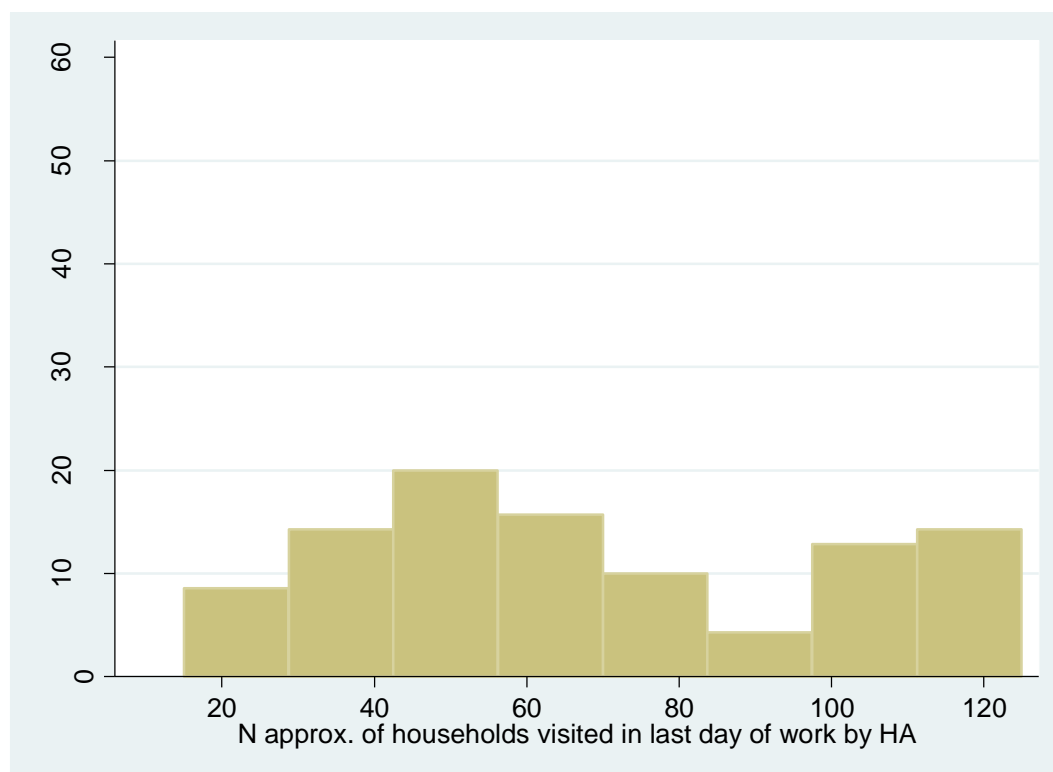
Table 19: Main Reason Why FWAs Cannot Visit All Assigned Households

Variables	Control Mean	N1	Treatment Mean	N2	T-C Diff	Diff SE	Diff p-value	Diff ES
I have more households than I can handle	0.344	32	0.719	32	0.375	0.117	**0.002**	0.746
Distance among households is too long	0.438	32	0.500	32	0.063	0.127	0.623	0.124
Households do not cooperate	0.031	32	0.000	32	-0.031	0.031	0.321	-0.250
Reschedule visit to particular household	0.125	32	0.031	32	-0.094	0.067	0.167	-0.347
Other responsibilities in satellite clinic	0.719	32	0.563	32	-0.156	0.120	0.199	-0.323
Other responsibilities in FWC	0.375	32	0.156	32	-0.219	0.109	**0.048**	-0.491
Other responsibilities in EPI center	0.500	32	0.438	32	-0.063	0.127	0.623	-0.124

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points except where indicated.

Table 20: Main Reason Why HAs Cannot Visit All Assigned Households

Variables	Control		Treatment		T-C Diff	Diff SE	Diff p-value	Diff ES
	Mean	N1	Mean	N2				
I have more households than I can handle	0.727	33	0.784	37	0.057	0.104	0.590	0.131
Distance among households is too long	0.636	33	0.703	37	0.066	0.114	0.563	0.140
Households do not cooperate	0.030	33	0.054	37	0.024	0.048	0.625	0.116
Reschedule visit to particular household	0.121	33	0.027	37	-0.094	0.064	0.144	-0.363
Other responsibilities in satellite clinic	0.273	33	0.270	37	-0.002	0.108	0.982	-0.005
Other responsibilities in FWC	0.030	33	0.000	37	-0.030	0.030	0.320	-0.254
Other responsibilities in EPI center	0.727	33	0.838	37	0.111	0.100	0.272	0.268

Notes: "Diff" is the average difference between treatment and control groups; "SE" is the standard error of this difference clustered at the community clinic level; "ES" is the effect size of the estimated impact. All values are in decimal points except where indicated.

E.3 Administrators Characteristics

Table 21: Position of Interviewed Administrator

Position of Respondent	N
Assistant Health Inspector	4
Family Planning Inspector	1
Health Inspector	5
Medical Technologist (EPI)	1
Upazila Family Planning Officer	1
Upazila Health And Family Planning Officer	3
Total	15

Table 22: Position Description and Relation to the Community Clinic

Role	No	Yes
Ensure/monitor attendance of CHCP, HA, FWA	10	5
Ensure medicine supply	12	3
Visit all activities of clinic	14	1
Identify the problems of the clinic and take necessary steps to inform the high officials about them	14	1
Identify the problems of the clinic and aid to get the necessary solution	11	4
Supervising and performing government duties	14	1

	No	Yes
Work according to the checklist	14	1
Monitor work and see if it is being done according to target	14	1
See if the quality and the type of service is acceptable	13	2
Motivate the public to obtain services	14	1
When signs of diarrhea or mumps are observed in a patient, send the patient to hospital	13	2

Note: Up to three responses allowed, with no prompting. "No" responses mean that respondent did not describe this role in any of up to three opportunities. Because of the small sample sizes, we are presenting these roles for all types of administrators combined.

Table 23: Nature of Role with Regional Community Clinic

	No	Yes
Direct	0	15
Supervisory role	1	14
Indirect	15	0
No role	15	0

Table 24: Types of Personnel Administrators Have Direct Contact With

	No	Yes
Community Health Care Provider (CHCP)	0	15
Health Assistant (HA)	1	14
Family Welfare Assistant (FWA)	8	7

Table 25: Types of Issues Administrators Discuss with Community Clinic Personnel

	No	Yes
Administrative issues like staffing	2	13
Functioning like matters related to government supply to clinic	2	13
Service delivery issues like if people are getting benefits they are supposed to get	0	15
Service delivery issues like number of people served	1	14

Table 26: Mechanism to Determine if Staff is Visiting Households

	No	Yes
No mechanism	14	1
For FWAs	12	3
For HAs	3	12

Table 27: Main Reasons FWAs Cannot Visit All Assigned Households

	No	Yes
All FWAs visit assigned households	2	1
Household located far from community clinic	2	1
Distance among households too long	1	2

Note: Reported only for those who have mechanism to determine if FWA visit households.

Table 28: Main Reasons HAs Cannot Visit All Assigned Households

	No	Yes
All HAs visit assigned households	9	3
Household located far from community clinic	3	9
Distance among households too long	3	9

Note: Reported only for those who have mechanism to determine if HA visit households.

Table 29: Other Important Government Officials at the Local Community Clinic (Within the Office)

	No	Yes
Medical Officer Disease Control	5	10
Upazila Health And Family Planning Officer	4	11
Health Inspector	13	2
Family Planning Inspector	14	1

Note: Yes if type is listed by any respondent; no if not listed by any respondent.

Table 30: Other Important Government Officials at the Local Community Clinic (Outside the Office)

	No	Yes
Civil Surgeon	8	7
Upazila Nirbahi Officer	8	7
Deputy Director (Health)	14	1
Upazila Chairman	14	1

Note: Yes if type is listed by any respondent; no if not listed by any respondent.

Appendix F: Definition of Analytical Variables

<u>Single parent household</u>
In order to calculate the number of parents that are part of the household, we first generate a mother variable if the household member listed is the respondent. The enumerators were instructed to interview the mother of the household. Then we calculate father based on the relationship to respondent as spouse. If we only have one parent for the sample child, this household is considered a "single parent household". (See Section B: Q2)

<u>Percent with Mother-in-law in household</u>
If the household member is listed as "mother-in-law or father in-law" AND that family member is female, we list that the mother-in-law resides in the household. (See Section B: Q2 and Q3)

<u>Percent Muslim</u>
We first use the father variable calculated as described in single parent household. If the father is listed as Muslim then the household is coded as a Muslim household. If this is missing or there is no father in the household we use the mother's religion. (See Section B: Q8).
The majority of non-Muslim households are Hindu.

<u>Mother's education (number of years)</u>
We first use the mother variable calculated as described in single parent household. The mother's education is a numeric variable that includes up to class 12 based on highest class passed. Graduate and Masters Education is included as 12 years for the purpose of this indicator. Pre-primary school, Qawmi madrasa, and Hafezi are not included as formal education for this variable (although no mothers listed these three as highest level of education). (See Section B: Q7)

<u>Father's education (number of years)</u>
We first use the father variable calculated from above. The father's education is a numeric variable that includes up to class 12 based on highest level of education achieved. Graduate and Masters education is included as 12 years for the purpose of this indicator. Pre-primary school, Qawmi madrasa, and Hafezi are not included as formal education for this variable. (See Section B: Q7)

<u>Father employed</u>
We first use the father variable calculated from above. Father employed is created based on whether the spouse of the respondent was listed as employed. They are not employed if they answered that they are looking for a job, perform household work, or if they do not work (See Section B: Q12)

<u>Mother married</u>
We first use the mother variable calculated from above. Then we create the married status if this household member is listed as married. Otherwise she is unmarried, widowed, or divorced/separated. (See Section B Q10)

<u>Mother works at home</u>
We first use the mother variable calculated from above. Mother works at home is created based on whether the respondent's employment was listed as "household work". Otherwise, they are employed, are looking for a job, or do not work (See Section B: Q12)

Mother's Age
We first use the mother variable calculated from above. Then the age is calculated from Q4 from Section B.

Household size
We count each family member per household to create household size. This includes all members related to the enumerator by the respondent.

Mother is employed
We first use the mother variable calculated from above. Mother is employed is created based on whether the respondent's employment was listed as "employed". Otherwise, they work at home, are looking for a job, or do not work (See Section B: Q12)

Household Characteristics
The household characteristics came from Section C in the household survey. They were computed as follows:

- Finished wall (cement/brick): Percentage of households observed having either cement or brick walls in question C014.
- Finished floor (cement/concrete): Percentage of households observed having either cement or concrete floor in question C012.
- Finished roof (cement/concrete): Percentage of households observed having either cement or concrete roof in question C013.
- Fuel used for cooking clean: Percentage of households reporting using electricity or natural gas in question C015.
- Fuel used for cooking poor: Percentage of households reporting using LPG or Kerosene in question C015.
- Fuel used for cooking very poor: Percentage of households reporting using wood, charcoal, straw, shrubs, grass, or animal dung in question C015.
- Latrine type (Improved): Percentage of households reporting eitherring-slab/offset latrine (water seal), Pit latrine (covered), or septic latrine in question C002. All other types are considered unimproved.
- Household has own latrine: Percentage of households reporting that the latrine reported in C002 is their own in question C003.
- Piped water source: Percentage of households reporting deep tube well, shallow tube well, or tap water supplied through pipes in question C001. All other types are not considered "piped" water sources.
- Members per sleeping room: First the number of household members are summed up from section B. Then we divide this number by the number of rooms used for sleeping in question C004.

Wealth index
The index is a composite of several measures of household wealth—including assets possessed by the households, household members per sleeping room, drinking water supplies, toilet facilities, home building materials, source of cooking fuel, and land area.

This indicator was validated by using the DHS Bangladesh survey to create a "proxy" wealth index including all types of measurement listed in the household survey (assets, drinking water supplies, sanitation) and correlating with the actual DHS wealth index created by the DHS survey methodologists. The correlation was .6611.

Mother has completed work for money (past week)
This was created from question D001 from Section D of the household questionnaire. They were asked if they had taken on any jobs, sold items, worked on the farm or in the family business for any cash or in-kind payments in the past week.

Decision making indicators
The decision making variables are based on who is MOST responsible for items H001-H006 on the household questionnaire. We wanted to see if the mother is a primary decision maker in the household. If they responded that the mother, the respondent and partner jointly, or the mother and other family members jointly were most responsible for making decisions on each item we created a variable for each outcome. Alternatively we also created this same variable based on if the mother-in-law was listed as the most responsible person for making these decisions in the household.

Maternal Depression scale
Using Section L from the questionnaire, we report the number of days reported by the respondent that they felt a certain way during the past week (0-7). To prepare the maternal depression scale we reverse coded question L004, which is a positive event, and then we added the total number to get a scale from 0-42.

Stimulation knowledge scale
Using Section G from the household questionnaire, we report the responses of the mothers for a number of events which would provide information on their stimulation knowledge. The table provides the percentage who agreed with the statement. Mothers who were not sure were not included in the total. To create the stimulation knowledge scale, we reverse coded questions G001, G002, G003, and G006, which are negative responses, and then we added the total number to get a scale from 0-8.

Modified Short HOME inventory scale
Using section J, we first recoded questions J001, J002, J006, and J007 to report percentages of mothers who said "yes" to the 4 questions. To create the HOME inventory scale we added the total number of the ten questions in the section to get a scale from 0-10.

Play material scale
For the play material analysis, we used section K from the household questionnaire. We show the percentage of mothers who report "Yes" for questions 1 through 4 of this section, and we recoded question 5 to report the percentage who had one or more picture books in the home. To create the scale we added the total number of yes responses and mothers who reported at least one picture book to get a scale from 0-5.

Anthropometric outcomes
The anthropometric measures include all inputs needed to calculate important physical development scores. These inputs– age in months, height, weight, head circumference, and gender–were used in the WHO anthro software to calculate a number of standardized measurement scores that can be compared

across a number of countries and ages[48]. The mean z-scores for weight-for-height, height-for-age, weight-for-age, and head circumference-for-age are reported as calculated by the WHO software. The z-scores calculated from the anthropometric measures can be interpreted as measures of severe malnutrition for three outcomes in children under 5 years of age.

Percent wasted: The percent of children with a weight-for-height z-score of less than negative 2.
Percent stunted: The percent of children with a height-for-age z-score of less than negative 2.
The percent underweight: Percent of children with a weight-for-age z-score of less than negative 2.

Child Development outcomes
Bayley cognitive and language composite scores are used as children's development measures. In case of comprehensive and expressive language scores, we used the scaled scores for each of those.

Breastfeeding Practices
The breastfeeding practices indicators came from Section E in the household survey. They were computed as follows:

- Ever breasted: Percent of mothers who responded yes to question E002.
- Exclusively breastfed (6 or more months): Percent of mothers who reported breastfeeding for 6 or more months for children 6 months or older (E003 and age in months).
- Months exclusively breastfed: Number of months child was reported exclusively breastfed (E003).
- Hours after birth child was put to the breast: Number of hours reported that child was put to the breast after birth (E004).
- Child was given colostrum: Percentage of mothers who responded yes to question E005. Mothers who did not remember or had no comment were not included in the total.
- Currently breastfed: Percentage of mothers who responded yes to question E006. Mothers who did not comment were not included in the total.
- Number of night feedings (prior night): Number of breast feedings the prior night as reported by question E007.
- Number of day feedings (prior day): Number of breast feedings the prior day as reported by question E008.
- Child was given solid foods or liquid with breastfeeding (5 months or younger): Percentage of currently breastfeeding children who were also given liquids and solid foods in the past day aged 5 months or younger (E006, E009, and age in months).

Child was given solid foods or liquid with breastfeeding (6 months or older): Percentage of currently breastfeeding children who were also given liquids and solid foods in the past day aged 6 months or older (E009 and age in months).

[48] These standards were developed using data collected in the WHO Multicentre Growth Reference Study. The site presents documentation on how the physical growth curves and motor milestone windows of achievement were developed as well as application tools to support implementation of the standards.

Food Diversity: Minimum times fed (%)

The number of meals that an infant or young child needs in a day depends the age of the child as well as whether the child is breast feeding. Breastfed infants 6–8 months old need 2–3 meals per day, while breastfed children 9–23 months need 3–4 meals per day, with 1–2 additional snacks as desired. Children who are not breastfed should be given 1–2 cups of milk and 1–2 extra meals per day. Therefore, children aged 6-8 months were regarded as fed the minimum amount of times if the mother reported 2 or more meals in question E010 and was also being breastfed (E006). Children aged 9-18 months who were reported as being fed 3 or more meals in question E010 along with being breastfed were reported as fed the minimum amount of times. For all children aged 6 through 18 months who were not being currently breastfed, the minimum meals reported in E010 had to be equal to or greater than 4 and at least once the mother had to report dairy as part of the last day's meal (see food categories E011c, E011d, and E011f).

Diet diversity (%)

Dietary diversity is a proxy for adequate micronutrient-density of foods. To be considered to have enough diet diversity for children aged 6-23 months, having 4 of the following food groups on the previous day would mean that the child had a high likelihood of consuming at least one animal-source food and at least one fruit or vegetable, in addition to a staple food.

The 7 foods groups used for calculation of diet diversity indicator are:
- Grains, roots and tubers (E011g, E011h, and E011s)
- Legumes and nuts (E011r and E011s)
- Dairy products (E011c, E011d, and E011f)
- Flesh foods (E011o, E011p, and E011q)
- Eggs (E011n)
- Vitamin-A rich fruits and vegetables (E011l, E011k, and E011j)
- Other fruits and vegetables (E011m)

First we created each category of food based on whether the mother reported the child eating one or more of the types that fit into each category the day before (see above). Then, for all children aged 6-18 months we added the total number. The percentage of children having 4 or more of these food groups is presented in the variable.

Micronutrients

The micronutrient indicators were created from variables E012 and E013. The percentage of mothers who reported yes to child receiving Vitamin A and anti-helminth in the past 6 months is reported in the table (ages 12-18 months). Mothers who were not sure were not included in the total.

Morbidity

The morbidity indicators were created from variables E014 and E016. The percentage of mothers who reported child having diarrhea or being seriously ill in the past two weeks is reported in the table. Mothers who were not sure were not included in the total.

Treatment for Illness

The treatment indicators were created from variables E015 and E017. The percentage of mothers who reported child being treated for diarrhea or for a major ill in the past two weeks is reported in the table.

Mothers who were not sure were not included in the total, and total number reflects children who were reported as ill in questions E014 and E016 for each outcome.

Hand Washing: Family members use soap or detergent to wash hands
This indicator reports the percentage of family members who report using soap or detergent to wash hands in E020. Any other hand washing items (ash, mud, water, nothing, and other) are coded as zero.

For the remainder of the food washing categories, the percentage who said yes washing hands according to the categories available in question E021a-E021f are reported in the table.

Pregnancy and antenatal Care
Mother currently pregnant: Percentage of mothers who reported "yes" to currently being pregnant (see F001 in the household survey).
Mother had antenatal check-ups during current/last pregnancy: Percentage of mothers who reported "yes" to having any ante-natal checkups during current or last pregnancy (see F003 in the household survey).
Number of antenatal check-ups during current/last pregnancy: For those who responded yes to question F003, the mean number of antenatal visits is presented below.

Responsive Feeding
Using Section I from the household questionnaire, we have a percentage of mothers who responded that they usually did something to make the sample child eat if they refuse. From those who responded yes to this question, we coded seven responses provided in the questionnaire for methods of persuasion and have percentages of feeding techniques. Mothers were allowed to answer more than one type of response.

We also created a scale for positive responsive feeding. If the mother did not usually do anything to make the sample child eat if they refused, they got a 0 on the scale (see question I001 from responsive feeding Section I). For those who reported they usually encouraged their child to eat, a score was added for the positive feeding responses (see I00d, I00e, I00f, I00g) leaving a scale of 0-4 for positive feeding responses. We also generated a binary variable which shows if the mother used any positive feeding encouragement or if they did not.

We created a scale for negative responsive feeding. If the mother did not usually do anything to make the sample child eat if they refused, they got a 1 on the scale (see question I001 from responsive feeding Section I). For those who reported they usually encouraged their child to eat, a score was added for the negative feeding responses (see I00a, I00b, I00c) leaving a scale of 0-3 for negative feeding responses. We also have a binary variable which shows if the mother used any negative feeding practices (not encouraging child to eat at all is also considered a negative feeding response).