Fonkoze's CLM Ultra Poverty Programme: Understanding and improving child development and child wellbeing

Endline report

FINAL

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Executive Summary

'Graduation programmes' are anti-poverty interventions that aim to set its participants on a virtuous cycle out of poverty. They provide a comprehensive package of support that often includes consumption transfers, asset transfers, access to savings and credit, training and coaching. Training and coaching are mostly focused on income generating activities but also include messaging regarding health, sanitation and nutrition. Existing research suggests that programmes have positive effects on household living standards and assets, including consumption, food security and asset holdings. However, the impact on individual household members, including children, is far less understood.

This report presents findings from a quantitative evaluation assessing the impact of the *Chemen Lavi Miyò* (CLM) – pathway to better life – programme on child development and wellbeing in Haiti. The CLM programme is implemented by Fonkoze and constitutes a 'graduation programme'. Over a period of 18 months, it provides intense material and non-material support to women who have dependents – often young children – and are living in extreme poverty in rural Haiti.

The evaluation is based on a quasi-experimental design, with a control group having been sampled after the treatment group had already been established. Propensity Score Matching (PSM) is used to generate a counterfactual that allows for difference-in-difference estimates. Key outcome indicators of interest represent main risk factors for child development. These include household living standards (as proxy for poverty), biological risk factors (such as nutrition and health) and psychosocial risk factors (such as maternal depression, early learning and safety and security). Analysis also explores the balance between paid work and unpaid care and the potential tension that may arise between providing quality care while engaging in income generating activities at the same time.

The CLM programme has a positive effect in various areas of child development and wellbeing, namely household living standards, access to food, maternal mental health, education, exposure to harsh corporal punishment and violent scenes at home, and occurrence of children in the community being sent to work as domestic servants. Effects are largest in outcome areas that are strongly related to availability of economic resources, such as perceptions of whether there is enough money to provide for children and access to food. Large impacts are also observed for indicators that are strongly related to support that is directly provided through the programme, such quality of roofing and drinking water.

The programme has limited impact in relation to other areas that are important for child development. Child feeding practices, undertaking stimulating activities with children, and attitudes regarding child disciplining are not affected by the programme. Certain areas of positive engagement with children – such as asking them about school, work and friends – are positively affected, while others – such as praising children – are not. Given the set of messages that are provided throughout the programme period, it is surprising to see no impact on child feeding practices. Lack of impact in areas of stimulating activities and child disciplining is more plausible as the programme does not focus on these areas.

Finally, the programme contributes to changes in women's time use towards spending more hours on paid work away from care work. Children appear to fill the gap as they increase their engagement in care work over the course over the programme period. This is a highly gendered and age-based shift: it involves mostly daughters and mostly young children aged 5-9. Children who are involved in care work do not tend to spend more time on these activities, however. This suggests that the main concern may not be those children engaged in care work, but rather those that they care for.

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1 Introduction

This report presents findings from a quantitative evaluation assessing the impact of the *Chemen Lavi Miyò* (CLM) – pathway to better life – programme on child wellbeing in Haiti. The CLM programme is implemented by Fonkoze and constitutes a so-called 'graduation programme'. Such programmes are based on the notion that extremely poor households require a big push towards a positively reinforcing cycle of income generation and asset accumulation (Carter and Barrett, 2007) and aim to set people on a sustainable pathway out of poverty. This requires a comprehensive package of support that often includes consumption transfers, asset transfers, access to savings and credit, training and coaching (Hashemi and Umaira, 2011). Training and coaching are mostly focused on income generating activities but often also include messaging regarding health, sanitation and nutrition.

Graduation programmes have expanded rapidly in the last five years; graduation programmes are now being implemented across the globe in more than 43 countries (Arévalo et al. 2018). Rigorous and cross-country evaluations showcase positive impacts on consumption, assets and food security (Banerjee et al. 2015). However, evidence with respect to whether and how participation in graduation programmes translates into positive outcomes for children is relatively thin (Roelen et al. 2019a). Arguably, graduation out of poverty is only truly sustainable if it is intergenerational, which requires programmes to have a positive impact on children (Roelen, 2015).

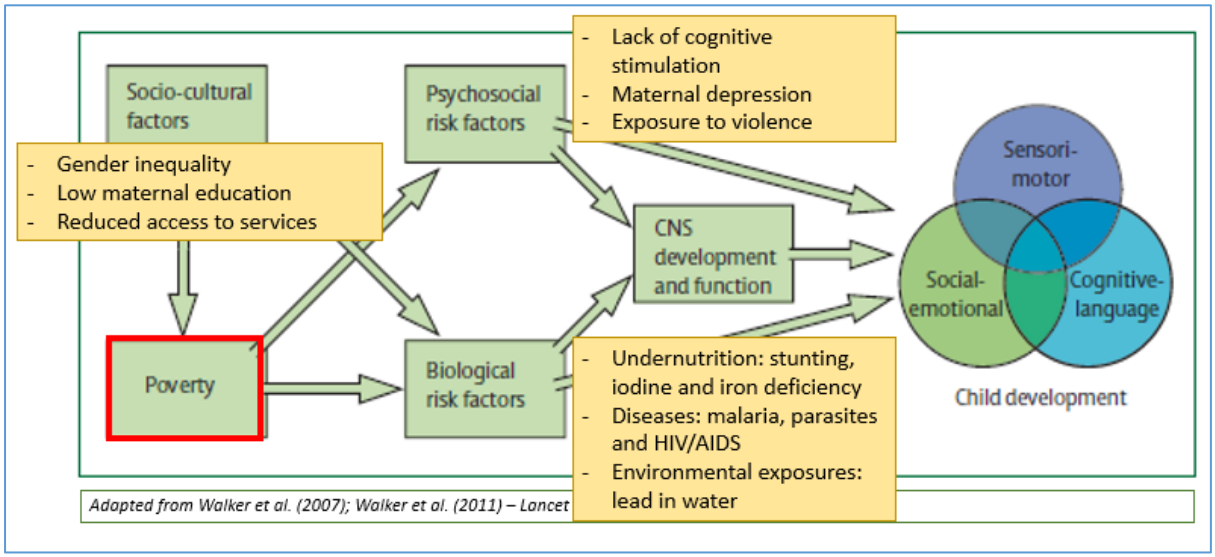
This evaluation contributes to the knowledge base about the role of graduation programmes in breaking the intergenerational transmission of poverty and sustainable graduation out of poverty. It does by assessing the impact of a graduation programme on risk factors and proxies for childhood development in Haiti. It is based on quasi-experimental design, comparing outcomes for women and their children before and after the programme for a treatment and control group.

The remainder of this report is structured as follows: Firstly, we introduce linkages between childhood development and graduation programmes in setting the scene for this evaluation. Secondly, we elaborate on the CLM programme before moving on to discuss evaluation design and methodology. We then present impact findings for key areas of childhood development. We conclude with final remarks.

2 Childhood development and graduation programmes

Childhood development constitutes a process of 'gradual unfolding of cognitive-language, social emotional and sensory–motor capacities' (WHO 2013, 4) and represents a crucial stage in life. A range of risk factors may impede child development, including poverty, biological risk factors, psychosocial risk factors and socio-cultural factors (see Figure 1). Poverty underpins biological and psychosocial risk factors such as undernutrition, lack of cognitive stimulation, maternal depression, poor caregiver-child relationships and violence. These factors interact with socio-cultural risk factors such as gender inequality, low maternal education and reduced access to services (Engle et al. 2007; Walker et al. 2007, 2011). In combination, these may hamper children's development, thereby undermining their wellbeing at present and impeding their ability to move out of poverty in the future.

Figure 1 Risk factors for child development



Participation in graduation programmes may link to risk factors in child development in two positive ways and through one potentially negative pathway (based on Barrientos et al. 2014; Roelen, 2015; Roelen et al. 2017):

1. **Greater availability of cash**, both as a result of cash stipends and through income earned as a result of business activities, can directly reduce poverty, and subsequently positively affect biological and psychosocial risk factors, including nutrition, maternal wellbeing, caregiver-child relationships and children's cognitive stimulation; and
2. The **training and coachin**g around health, sanitation and nutrition may alter parenting and care practices, directly addressing psychosocial and biological risk factors.

Participation in such programmes may also reinforce risk factors:

3. The creation of business activities for and with women beneficiaries may lead to a **gendered increase in the combined burden of paid and unpaid work**. The drudgery of unpaid (care) work and the struggle for women to manage their many responsibilities is widely documented (ActionAid 2013; Chopra and Zambelli, 2018). Coping with associated physical and mental stress and strategies towards balancing paid and unpaid (care) work may undermine their quality of care and parent-child relationships (see Roelen et al. 2017). The additional work requirements may also require children to get involved in productive activities (Roelen et al. 2015); this could have both positive and negative effects.

These pathways should all be considered in light of the wider contextual factors and the availability of infrastructure and services. **Absence of services** can present structural barriers that impede child development despite economic strengthening. Graduation programmes often have limited means to address such structural constraints.

Against this backdrop, this quantitative evaluation aims to gain insight into the impact of one graduation programme – namely the CLM programme in Haiti – on childhood development. We do so by focusing on how the programme may counteract key risk factors, such as poverty, undernutrition, maternal depression and lack of cognitive stimulation.

3 CLM programme

The CLM programme targets women from extremely poor households with dependents who are able to work, helping them onto a 'pathway to a better life'. It supports them over a period of 18 months with a carefully tailored and sequenced package of cash and asset transfers, skills development, coaching and service provision. We discuss the programme in greater detail below (based on conversations with programme staff and Werlin (2018)).

3.1 Selection and launch

Selection is a four-step process based on social mapping, participatory wealth ranking, preliminary selection and final verification. Social mapping and participatory wealth ranking exercises aim to categorise a group of 50-100 community members across five wealth categories; those members in the bottom two categories are deemed eligible for the programme. Case managers undertake preliminary selection by surveying the eligible community members as well as looking out for community members that may not have been mentioned during the social mapping. Final verification is undertaken by case managers and programme management team.

Selected beneficiaries (from here on referred to as 'CLM members') are officially invited into the programme during a visit by the case manager, which starts with an orientation and launch. The orientation includes a six-day training on income-generating activities that women can choose to engage with, mostly rearing goats and pigs. New members learn about the benefits and costs of each enterprise and the inherent and potential risks involved. Members choose their preferred two activities after consultation with the case managers. The official start of the programme is marked by a launch ceremony, which is both a celebration as well as a formal occasion with new members signing a contract with the CLM programme. They also receive a picture ID with which they can use it at the Partners in Health hospitals for free consultation and treatments.

3.2 Social and economic development

New members receive their **asset transfer** in the first few weeks after the launch ceremony. Depending on the selected business activities, this transfer will consist of livestock such as poultry, goats and pigs or other materials. During the first six months of the programme, women receive a weekly **cash stipend** of 350 gourds (roughly $4). This stipend is paid by the case managers at the end of each visit.

All members are encouraged to save in a ***sól***, which is a traditional community savings group whereby members contribute regularly with one member receiving the whole pot at every contribution. In addition, groups also act as **Village Savings and Lendings Associations (VSLA)**. Members also have the option to create a **savings account** at the nearest Fonkoze office, but few make use of this opportunity.

Case managers undertake weekly **home visits** to observe living conditions, discuss progress towards business goals and provide health and hygiene messages. They support around 50 members. Topics include sanitation, clean drinking water, nutrition, family planning and vaccinations, among others. During each home visit, case managers will discuss two of 12 messages in a rotating manner. Each week, case managers discuss one new message and review the previous week's message. The visit will be completed with a conversation about plans for the coming week and longer future. Home visits are complemented with regular three-day **group trainings** that take place every three months. The content of these trainings is similar to the initial six-day training, but increasingly involves members in leading discussions.

Members receive **in-kind support** to improve housing and sanitation conditions, including materials to improve their houses and tailored support with the construction of pit latrines. The programme also provides a ceramic water filter and jug at the start of the programme and promotes other water treatment methods such as boiling water and sunlight exposure. Other support may also include emergency subsidies, such as in the case of funeral or large health expenses. Such support is decided on an individual basis based on the assessments by the case managers.

Child malnutrition is common in rural areas, and the CLM staff are trained to recognise the signs of severe and acute forms of **malnutrition**. The team includes a licenced nurse, who screens all children under five for signs of malnutrition. Once detected, they refer the children to the nearest clinics for diagnosis and treatment with fortified therapeutic foods.

Finally, Fonkoze establishes **Village Assistance Committees** (VACs) committees at village level. These are based on volunteers – usually village leaders having previously taken a leading role in assisting the most vulnerable in their community – to offer supervision and support in absence of case managers and to manage any tensions between beneficiaries and community members who are not part of the programme.

3.3 Monitoring and assessment

Monitoring is carried out throughout the programme period. A first assessment is undertaken immediately after the launch ceremony in order to catalogue members' assets. The second assessment takes place after six months to assess progress towards members' business plans. The third and fourth assessments is based on a 10-question survey that will establish members' progress towards graduation. The third assessment is undertaken at 12 months to select which members may be able to graduate; the fourth assessment is done at 17 months to establish whether members have graduated or not. In the past, all assessment were carried out using paper-based instruments. Since 2017, Fonkoze has been testing and rolling out digitised monitoring tools.

After 18 months, a graduation ceremony celebrates the progress made and marks the end of programme participation. Members receive a certificate of graduation, and often invite family and friends to the ceremony.

Previous studies have demonstrated that the CLM programme leads to positive results for its members (Huda and Simanowitz, 2009; Pain et al, 2015). For example, 93 percent of members having participated in the first pilot met the graduation criteria at the end of the 18-month programme period with 92 percent of members operating at least two income generating activities. (Huda and Simanowitz, 2009). Whilst the intra-distributional allocation of increased income can be expected to benefit children at least proportionately, more evidence is needed. For example, severe malnutrition among children appeared to be eradicated among all beneficiary households participating in the first pilot of the CLM programme (Huda and Simanowitz, 2009). No information is available regarding the interaction between participation in the programme and repercussions for child care or wider concerns regarding child development.

4 Evaluation design and methodology

This evaluation is based on a quasi-experimental design. The sample for the treatment group (CLM members) was pre-determined by programming considerations and therefore did not allow for full experimental design. In light of budget and practical constraints, we opted for oversampling the control group and relying on tools such as Propensity Score Matching (PSM) to ensure a robust counterfactual that allows for difference-in-difference estimates. We provide further information on the sample, survey instrument and methodology below.

4.1 Sampling

The baseline sample was established against the backdrop of a treatment group that had already been selected. Identification of the control group was undertaken in order to maximize explanatory power and limit spillover effects, within the confines of budget and practical constraints. This involved a two-step process: (i) identification of neighbourhoods that are similar to those where the treatment group are located; and (ii) identification of women respondents with similar living conditions and situation as the programme beneficiaries.

The first step was undertaken by the Fonkoze team based on their longstanding experience and deep knowledge of the Central Region of Haiti and its locations. Control neighbourhoods were selected that share roughly similar characteristics with neighbourhoods where the programme was being implemented. This included a degree of variation along lines of access and infrastructure. Among the treatment areas, La Chappelle is most accessible as it is located along and close to the main road westwards from Mirebalais while Marche Kana and Mable are relatively more remote (noting that levels of remoteness can differ considerably across these two neighbourhoods). Among control areas, Desarmes is most accessible as it is located along and close the main road westwards from Mirebalais past La Chapelle while Savanette is more remote.

The second step involved participatory wealth rankings at village level. This process mirrored the targeting process for the CLM programme, thereby ensuring that the control group includes women that are extremely poor and fit the targeting criteria. A total of more than 160 participatory wealth rankings were undertaken to select the full number of respondents.

Table 1 provides an overview of the total sample. At baseline, the sample included 631 female CLM members (treatment group) and 750 female non-CLM members (control group). We use individual women as the unit of analysis in order to retain maximum power in estimation of impacts. We do for two reasons: (i) the use of children as unit of analysis would have limited the balanced sample due to ageing in and out of the cohort between baseline and endline, and (ii) overall attrition and inconsistencies in data collection at baseline and endline has made it more difficult to match individual children within household units.

Baseline data for the treatment group was collected in June-July 2017 during which women beneficiaries received orientation training for the CLM programme. Data for the control group was collected August-December 2017. Endline data was collected almost two years later, in April 2019 for the treatment group and in May-June 2019 for the control group. Data collection was subject to a considerable degree of attrition, namely a total of 15.4 percent (at the level of individual women). Not surprisingly, levels of attrition are higher among the control group as it was more difficult for the fieldwork team to trace respondents without any programming linkages within the community.

Table 1 Overview of sample

Department, Arrondissement	Neighbourhood	Baseline (# women)	Baseline (# children 0-4)	Endline (# women)	Endline (# children 0-4)	Attrition – women (%)
Treatment group						
Artibonite, Saint-Marc	La Chappelle	300	340	260	240	13.3
Centre, Mirebalais	Mableux, Marche Kana	331	356	301	251	9.1
Total treatment		*631*	*696*	*561*	*491*	*11.1*
Control group						
Artibonite, Saint-Marc	Desarmes	398	324	329	251	17.3
Lascahobas	Savanette	352	371	278	295	21.0
Total control		*750*	*695*	*607*	*546*	*19.1*
Total #N		***1,381***	***1,391***	***1,168***	***1,037***	***15.4***

4.2 Propensity Score Matching

We use Propensity Score Matching (PSM) to overcome selection bias as a result of the study's quasi-experimental design. Selection bias emerges because individuals or intervention villages were not randomly selected for programme intervention. In this case, the selection of villages and women within those villages who would take part in the CLM programme was already pre-determined. In the absence of random allocation, PSM supports the identification of a robust counterfactual that allows for estimating differences in outcomes that can be attributed to the programme.

We first calculate the propensity score, defined as the conditional probability of treatment given pre-participation characteristics using the logit model (Sianesi, 2004; Faltermeier and Abdulai, 2009). In this case, the propensity score is an estimated probability that a woman may be selected for the programme. This score is calculated using observed characteristics of women in our total sample at baseline, including both members (and part of the treatment group) and non-members (and part of the control group). Crucially, these characteristics should not serve as outcome indicators for which we are trying to observe change. In our case, this limits the set of characteristics that can be taken into account as many variables that could explain selection into the programme also serve as outcome indicators. We use location (department) of where respondent lives, household size, number of household members over 10 years of age who work, literacy of respondent, literacy of their spouse, age of respondent and marital status of respondent (Appendix -Table A).

Subsequently we use the propensity score to match CLM members with non-CLM members in order to establish a meaningful comparison group. The estimation uses the nearest neighbour matching algorithm that matches each participant with its closest neighbour with similar characteristics. We employ the standardised bias approach proposed by Rosenbaum and Rubin (1985) to assess the quality of matches by comparing before and after matching to check for remaining differences after conditioning on the propensity score.

Overall, we find that after matching the covariates (characteristics) are balanced in the treatment and control groups. Results of balancing tests show improved standard bias after matching (Appendix – Tables B and C). We obtain a matched sample of 1,108 (554 treatment, 554 control) for outcome variables that are observed for all respondents, including living standards, access to food, household dietary diversity, engagement with children, attitudes to child disciplining and exposure to violent and harmful practices. We obtain smaller but still sizeable samples for outcome variables that only refer

to a sub-sample of the respondents. This is mostly due to indicators only referring to household members in a certain age bracket, such children's dietary diversity score, infant and young child feeding practices, school attendance and undertaking stimulating activities with children. In the case of health-seeking behaviour, the sample is limited as there needs to be an experience of having been ill in the previous period in order to establish whether treatment was sought or not. Sample sizes for each outcome variable are presented in tables in the findings section.

The matching indicators show substantial reduction in absolute bias for all the outcome variables - the mean bias in the covariates after matching lies below the 20 percent level of bias reduction suggested by Rosenbaum and Rubin (1985). This indicates that the covariates were significantly balanced as a result of the propensity score matching procedure. In addition, the pseudo-R2s after matching are fairly low with most F-statistics being significantly different from zero, suggesting that the overall results are satisfactory in balancing the covariates.

The propensity score appears to balance the treated and untreated groups well and no significant differences are found across all covariates (Appendix – Table D), a result which shows the relevance of the propensity score matching approach. A comparison of the distribution of propensity scores before and after matching (Appendix – Figure A) clearly indicates that estimating the propensity score appears to balance the treated and untreated groups well, a result which shows the relevance of the propensity score matching approach.

Using the new sample, we estimate treatment effects on various outcomes:

$$Yi = \alpha + \beta Ti + \gamma ti + \delta (Ti \cdot ti) + \varepsilon i$$

α = constant term
β = treatment group specific effect (to account for average permanent differences between treatment and control)
γ = time trend common to control and treatment groups
δ = true effect of treatment (treatment effect)

We use a linear regression model for continuous variables and logistic regression model for binary variables.

4.3 Data collection

Survey questionnaires were administered to CLM members in the treatment group and to main women in the household in the control group. They were asked for information about themselves, other household members (with certain questions specifically referring to children) and the household at large. The questionnaire was built up around 6 modules, namely: (1) household roster with information about individual household members, including education, and health-seeking behaviour, work for those aged 6 or older, and child stimulation activities with children aged 3-5; (2) living conditions; (3) food and diet; (4) maternal stress and depression; (5) child protection attitudes; (6) balance between work and care.

The same questionnaires were used for data collection at baseline and endline. Data was collected using digital devices with the survey questionnaire being pre-programmed on those devices. We were able to maintain some degree of consistency in the team throughout the evaluation period with half of the enumerators that collected baseline data also being part of the endline team.

Consistency of data collection suffered from two notable challenges. Firstly, data for baseline and endline was collected at different times during the year, particularly for the control group. Seasonal differences may have introduced bias in the data, leading to differences between control and

treatment at baseline, and between baseline and endline within groups. We reflect on the role of seasonal differences in the discussion of findings where appropriate. Secondly, data of individual household members at baseline and endline had to be matched manually at the time of endline data collection due to household roster info from baseline not being pre-loaded onto the digital devices. This process has led to inconsistencies between individual data at baseline and endline; we therefore use the woman and her household as unit of analysis.

5 Findings

The discussion of findings is structured around main risk factors that can undermine child development. These include poverty, for which we use living standards as a proxy; biological factors, including nutrition and health-seeking behaviour; and psychosocial factors, including maternal depression, child stimulation and engagement, education, and safety and security. We also analyse changes in relation to the balance between work and care.

We provide descriptive statistics in tabular and graphical format, and present estimates of the treatment effect. In a bid to contextualise findings, we reflect on how results compare to evaluations of other graduation programmes. It should be noted that such comparisons aim to offer a broad frame of reference rather than direct comparison.

5.1 Living standards

We use living standards as a proxy for poverty[1], and focus on three indicators. Two indicators directly refer to housing and living conditions, namely (i) quality of roof materials and (ii) main source of drinking water. Roofs that are made of cement, concrete, tin or metal sheets are considered good materials. Safe sources of drinking water include wells, private faucet/ DINEPA and treated water. The third indicator reflects respondents' perceptions of whether they have enough money to provide for their children.

The CLM programme significantly improves ***housing and living conditions*** as proxied by roofing materials and quality of the source of drinking water. Positive effects regarding roofing are not surprising as CLM members are provided with iron sheets to upgrade their roofs. Similarly, CLM members receive a water filter and repeated messaging regarding the importance of clean drinking water. Such programme effects – i.e. positive changes as a direct result of support that is provided through the programme – are also observed within other graduation programmes, such as in Burundi and Rwanda.

The use of good roofing materials increased from 61 percent at baseline to 99 percent at endline for the treatment group. While positive effects can also be observed for the control group, these are relatively smaller (Table 2 and Figure 2), leading to a significant treatment effect (Table 3). Participation in CLM increases the likelihood of having a roof made out of good materials by 30.3 percentage points. Evaluations of other graduation programmes also report high positive effects. In Burundi, the likelihood to have a poor-quality roof reduced by 46 percentage points (Devereux et al. 2015). In Rwanda, the proportion of programme participants who had roofs made out of iron sheets (as opposed to thatch, tiles or other materials) increased from 28 percent to 68 percent across the programme period (Devereux et al. 2016).

[1] We are unable to report changes in PPI as various variables that are included in the PPI, such as household size, literacy and ability to work were used for the process of propensity score matching.

The programme also has a significant positive effect on the use of safe drinking water, although the size of the effect is smaller. It should also be noted that the proportion of women that uses a safe source of drinking water is small, even after participation in CLM. At baseline, 8.7 percent of CLM beneficiaries used a safe source; this went up to 15.2 percent at endline (Table 2 and Figure 3). In comparison to the control group, this means that participation significantly increases the probability of using a safe source for drinking water (Table 3), namely by 7.4 percentage points. This positive effect compares favourably to findings from evaluations elsewhere. In Burundi, programme effects were limited, largely because the control group also experienced an increase in access to safe drinking water (Devereux et al. 2015). In Bangladesh, no impacts were found in relation to use of safe drinking water, although it should be noted that almost all households had access to safe drinking water at the start of the programme (Raza and Van de Poel 2016).

Table 2 Mean values for household living standards indicators for matched sample

Household living standards					
Good roof material			***Safe source of drinking water***		
	treatment	control		treatment	control
baseline	60.5	79.6	baseline	8.7	19.7
endline	98.6	87.4	endline	15.2	18.8

Table 3 Regression estimates for good roof and good water indicators

	(1)	(2)
VARIABLES	good roof	good water
time	1.102***	-0.084
	(0.246)	(0.183)
treated_id	-1.887***	-1.371***
	(0.294)	(0.266)
time*_treated_id	5.148***	0.969***
	(0.605)	(0.296)
Constant	2.791***	-2.152***
	(0.280)	(0.193)
Number	1,108	1,108

*Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1*

Figure 2 Trends in good roof over time

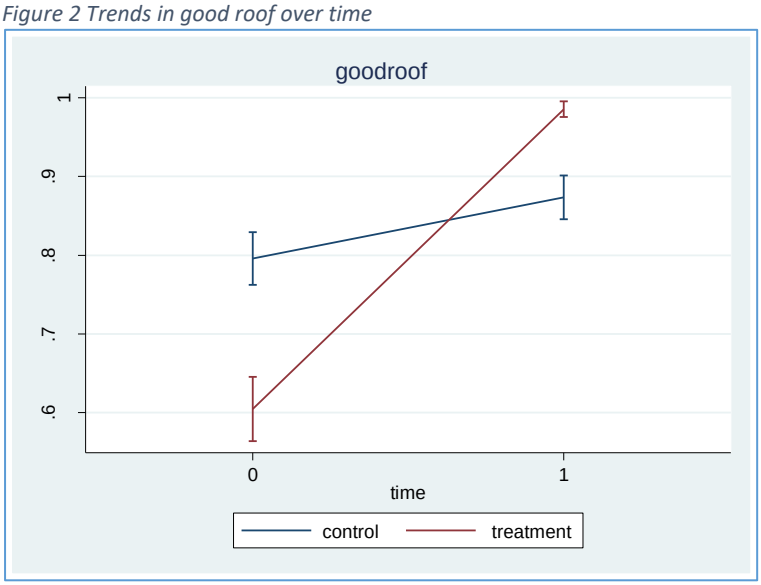
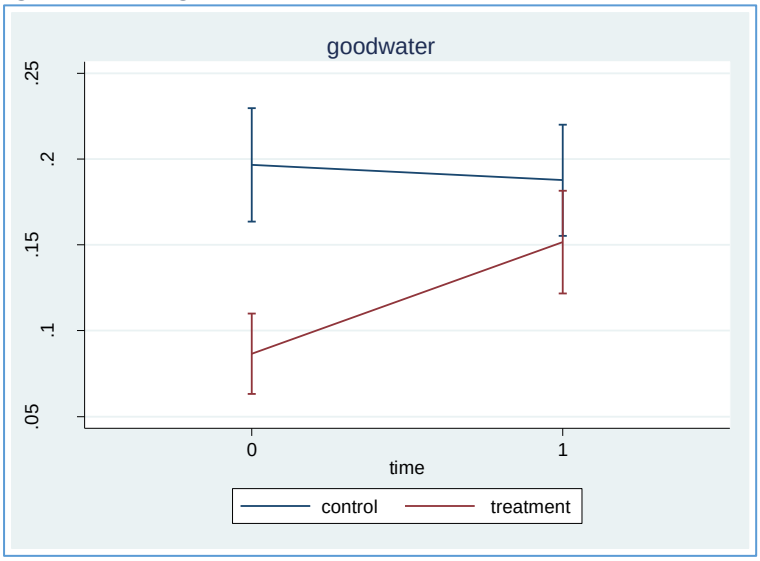


Figure 3 Trends in good water over time



We also observe a positive programme effect on respondents' own perceptions of ***the ability to provide for their children***. In order to measure these perceptions, we created a binary variable that considered a positive outcome if women answered that they had 'always sufficient', 'mostly sufficient', or 'sometimes sufficient' money to provide for their children. The CLM programme has a strongly significant effect on the perceived ability to provide for children. We do not have information about the impact of perceptions of sufficiency of funds from other evaluations but these findings do mirror impact results regarding improved consumption and food security (Banerjee et al. 2015).

At baseline, 11.7 percent of the treatment group indicated to have sufficient funds to provide for their children; at endline, this had increased to 29.6 percent. By contrast, there was a drop in the proportion of respondents among the control group that indicated to have sufficient money to provide for their children, namely from 9.6 percent at baseline to 4.3 percent at endline (Table 4 and Figure 4). Impact estimates point towards a strong and significant treatment effect (Table 5); the CLM programme increases the likelihood to have enough money – at least sometimes – to provide for children by 23 percentages points. It should be noted that more than two-thirds of all CLM members indicate to have mostly or always insufficient funds to provide for their children, even at the end of the programme.

Table 4 Mean values for having enough money to provide for children for matched sample

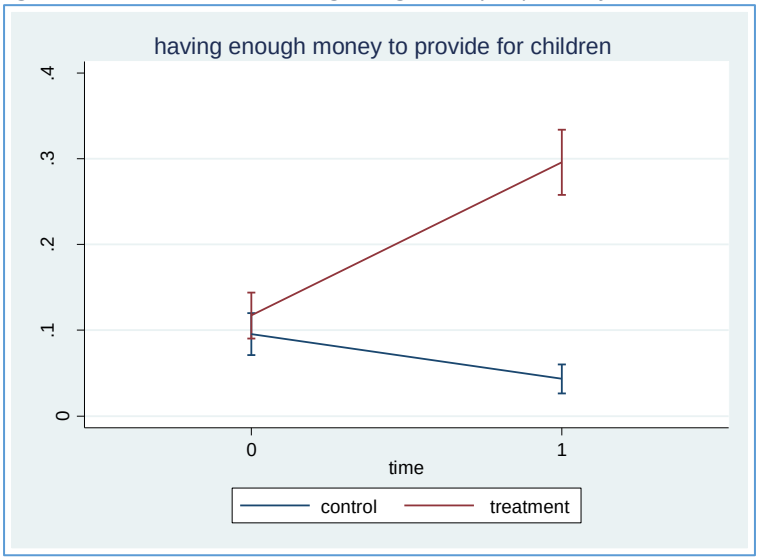
Having enough money to provide for children		
	treatment	control
baseline	11.7	9.6
endline	29.6	4.3

Table 5 Regression estimates for having enough money to provide for children

VARIABLES	(1) enough money
1.time	-0.876***
	(0.258)
1._treated_id	0.238
	(0.205)
1.time#1._treated_id	2.111***
	(0.316)
Constant	-2.428***
	(0.192)
Number of hhnum	1,108

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.

Figure 4 Trends over time in having enough money to provide for children



5.2 Biological risk factors

The biological risk factors under consideration in this study pertain to nutrition, including numbers of meals consumed per day, numbers of days and months of hunger and dietary diversity index. We also explore indicators in relation to health, notably occurrence of illness and injury and health-seeking behaviour.

5.2.1 Nutrition

In terms of nutrition, we consider access to food as well as diversity of diets.

With respect to ***access to food***, the programme significantly increased the number of meals that adults and children consume on an average day, and dramatically decreased the experience of hunger. These findings are largely in line with impacts of graduation programmes in other countries.

At baseline, adults and children only ate 1.4 meals per day on average. This increased to almost two per day at endline (Table 6 and Figure 5). The treatment effect is 0.49 for number of meals per day for an adult and 0.46 for children (Table 7 and Figure 6). In other words, the CLM programme increases consumption of approximately half a meal per day for adults and children. Similar impacts can be observed in other countries, such as in Burundi and Rwanda where graduation programmes also increased the average number of meals consumed by adults from comparable baseline levels to

roughly two meals per day at endline. Effects in these countries were greater for children, with children consuming an average of 2.4 meals per day in Burundi and 2.5 meals per day in Rwanda at endline. Follow-up research in Rwanda showed that some of these higher effects did drop off a year after graduation (Devereux et al. 2019). Notwithstanding these positive results, it should be noted that an average of two meals per day for adults and children especially is still considered to mark food insecurity; an average consumption of three meals per day marks food security (Devereux et al. 2019).

In terms of hunger, the programme reduced the number of months that households experienced hunger in the past year by 1.8 months on average; it reduced the number of days that households experienced hunger in the past month by 5.2 days on average (Table 6 and Figures 7 and 8). By comparison, a graduation programme in Burundi reduced the so-called hunger gap between 3.3 and 5 months depending on region and type of treatment (Devereux et al. 2019). Although this suggests that impacts of the CLM programme are more modest, it is important to note that the experience of hunger at baseline was much more severe among the treatment group in Burundi (7.3 months of hunger) compared to the treatment group in Haiti (4.4 months of hunger).

Table 6 Mean values for meals and hunger for matched sample

Meals and hunger								
	# meals per day for adult		***# meals per day for child***		***# months hungry in past year***		***# days hungry in past month***	
	treatment	control	treatment	control	treatment	control	treatment	control
baseline	1.4	1.6	1.4	1.6	4.4	4.5	10.8	8.9
endline	1.9	1.7	1.9	1.7	1.2	3.8	5.6	8.9

Table 7 Regression estimates for meals and hunger

VARIABLES	(1) Meals adult	(2) Meals child	(3) Hunger months/ year	(4) Hunger days/ month
time	0.058*	0.072**	-0.726***	-0.014
	(0.035)	(0.036)	(0.121)	(0.358)
_treated_id	-0.251***	-0.226***	-0.060	1.926***
	(0.038)	(0.039)	(0.154)	(0.385)
time*_treated_id	0.493***	0.464***	-1.758***	-5.220***
	(0.050)	(0.050)	(0.171)	(0.507)
Constant	1.612***	1.605***	4.498***	8.915***
	(0.027)	(0.028)	(0.109)	(0.272)
Number	1,108	1,108	1,108	1,108

*Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1*

Figure 5 Trends in number of meals per day for adults over time

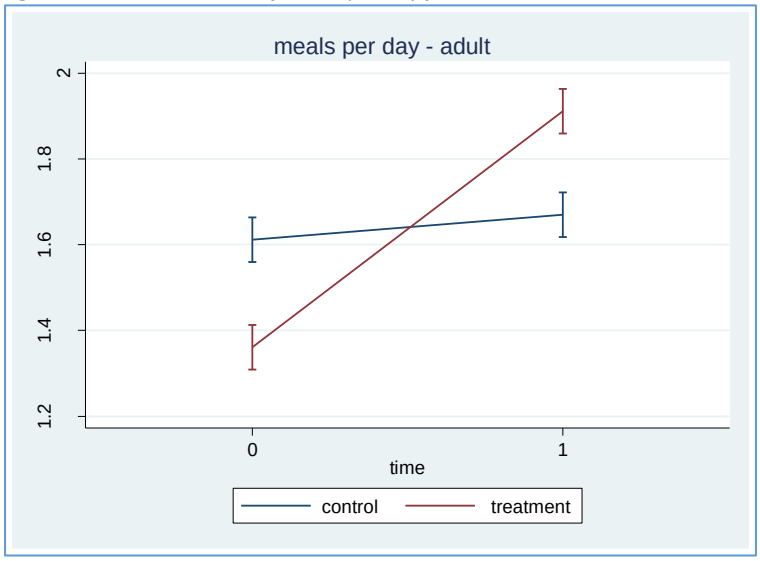


Figure 6 Trends in number of meals per day for children over time

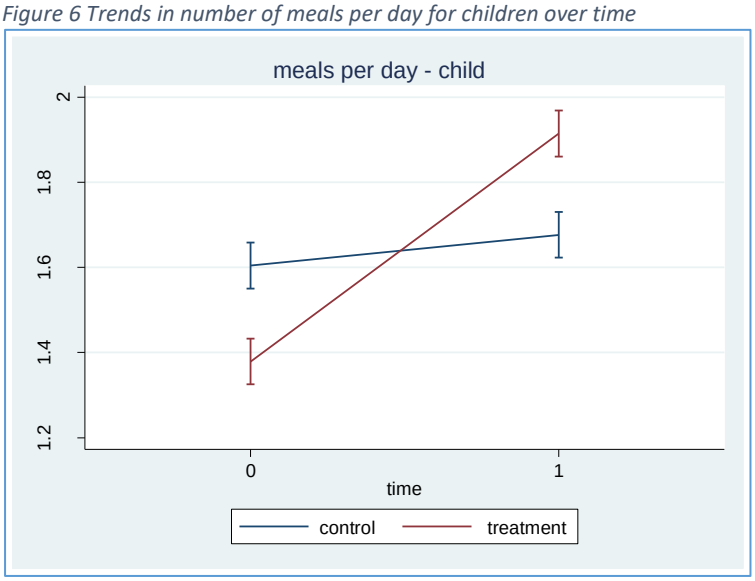


Figure 7 Trends in number of months hungry in past year over time

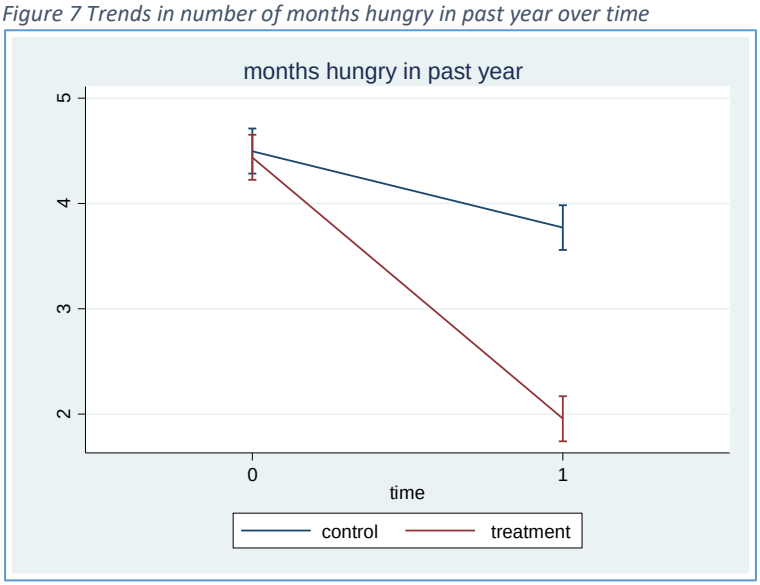
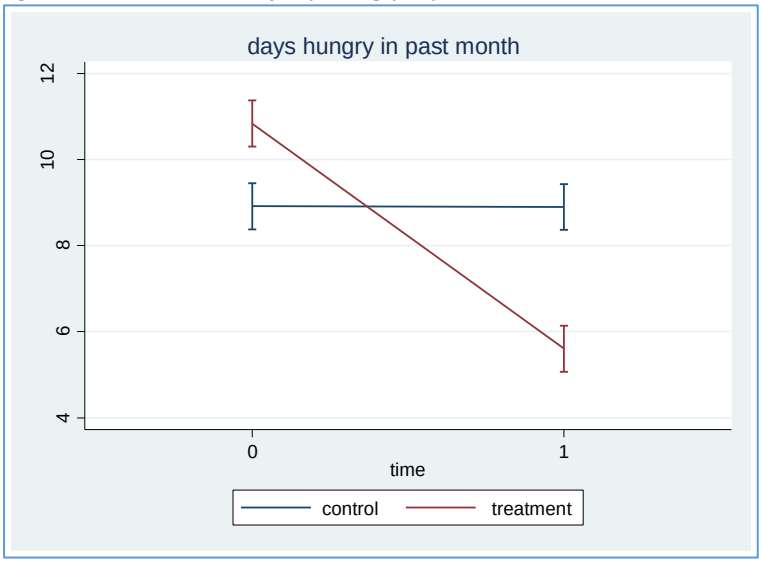


Figure 8 Trends in number of days hungry in past month over time



We consider three indicators for ***dietary diversity***, namely Household Dietary Diversity Score (HDDS), Child Dietary Diversity Score (CDDS) and Infant and Young Child Feeding (IYCF) practices score. The HDDS is based on the number of food groups (out of 12) that are consumed by the household in the last 24 hours[2]. The CDDS is specific to children aged 3-5 old and based on their consumption of eight food groups in the last 24 hours[3]. The IYCF practices score refers to seven food groups consumed in the last 24 hours by children aged 6-24 months[4].

We find that the CLM programme has a positive impact on HDDS. It has no impact on IYCF practices, and a small negative impact on CDDS. A comparison of these findings with impacts of graduation programmes elsewhere is not straightforward; findings for CLM compare unfavourably to impacts of graduation programmes in Burundi and Rwanda (Devereux et al. 2019; 2015) but are more positive than experiences in Bangladesh (Nisbett et al. 2016).

The HDDS went up from 3.9 to 6.1 (out of 12 food groups) for the treatment group, compared to an increase from 3.7 to 4.9 for the control group (Table 8 and Figure 9). This constitutes a significant attributable impact of 0.86 (Table 9), meaning that the CLM programme contributes to the consumption of almost one additional food group as part of household diets. This impact is lower than observed elsewhere, such as in Burundi (Devereux et al. 2019). Nevertheless, when comparing these findings with other research in rural Haiti, this impact can be interpreted as a shift from poor access to moderate access to diverse foods (see USAID 2015).

With respect to CDDS, however, we see a negative trend, albeit small. The treatment group slightly reduced the diversity of children's diets, from 2.9 to 2.8 (out of 8). Given a slight improvement in CDDS for the control group (Table 8 and Figure 10), a negative impact estimate is significant at a p-value of 0.1 (Table 9). We observe very little change for the IYCF practices score, which remains mostly static

[2] For a full description of the HDDS and its methodology, see FAO (2011) Guidelines for measuring household and individual dietary diversity. Rome: FAO. URL: http://www.fao.org/docrep/014/i1983e/i1983e00.pdf
[3] For a full description of the CDDS and its methodology, see Swindale, A. and P. Bilinsky (2006) Household Dietary Diversity Score (HDDS) for Measurement of Household Food Access: Indicator Guide (v.2). Washington, D.C.: FHI 360/FANTA. URL: https://www.fantaproject.org/sites/default/files/resources/HDDS_v2_Sep06_0.pdf
[4] [4] For a full description of the IYCFP and its methodology, see WHO (2010) Indicators for assessing infant and young child feeding practices Part 2 Measurement. Geneva: WHO. URL: http://apps.who.int/iris/bitstream/10665/44306/1/9789241599290_eng.pdf?ua=1

for the treatment and control group at two food groups (out of seven) (Tables 8 and 9 and Figure 11). While positive impacts on children's dietary diversity were observed for a graduation programme in Burundi, improving CDDS by 0.9 food groups (Devereux et al. 2015), no positive impacts were found for three programmes in Bangladesh (Nisbett et al. 2016). Children aged 6-24 months consuming less than three food groups constitutes a poor diet for children; the WHO stipulates that a child would need to consume at least four out of seven food groups in order to meet the requirements for a minimum dietary diversity that ensures that children eat at least one animal-source food and at least one fruit or vegetable in addition to a staple food (Nisbett et al. 2016).

Table 8 Mean values for nutrition indicators for matched sample

Nutrition								
HDDS			***CDDS***			***IYCF***		
	treatment	control		treatment	control		treatment	control
baseline	3.9	3.7	baseline	2.9	2.9	baseline	1.9	1.9
endline	6.1	4.9	endline	2.8	3	endline	2.1	2

Table 9 Regression estimates for HDDS, CDSS and IYCF

	(1)	(2)	(3)
VARIABLES	HDDS	CDDS	IYCF
time	1.271***	0.122	0.152*
	(0.110)	(0.086)	(0.089)
_treated_id	0.249**	0.024	-0.015
	(0.118)	(0.075)	(0.079)
time#*_treated_id	0.857***	-0.224*	0.097
	(0.156)	(0.119)	(0.127)
Constant	3.691***	2.878***	1.870***
	(0.083)	(0.053)	(0.056)
Number	1,108	752	648

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Figure 9 Trends in HDDS over time

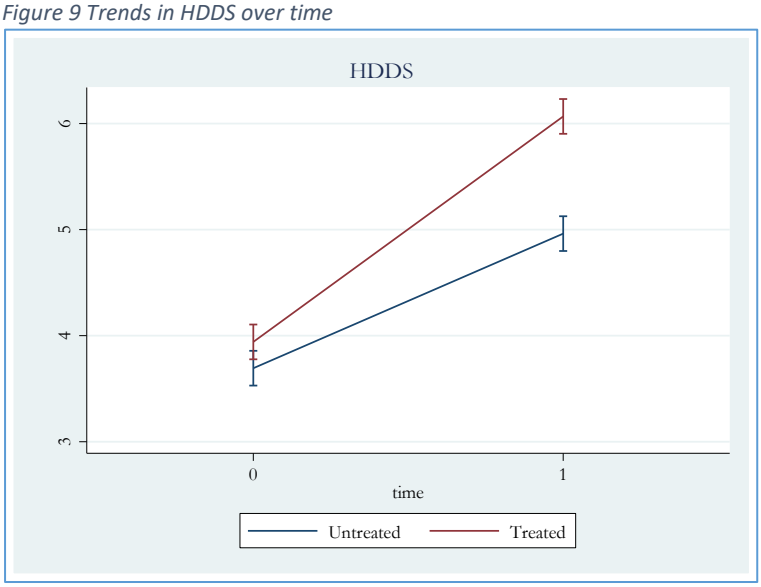


Figure 10 Trends in CDDS over time

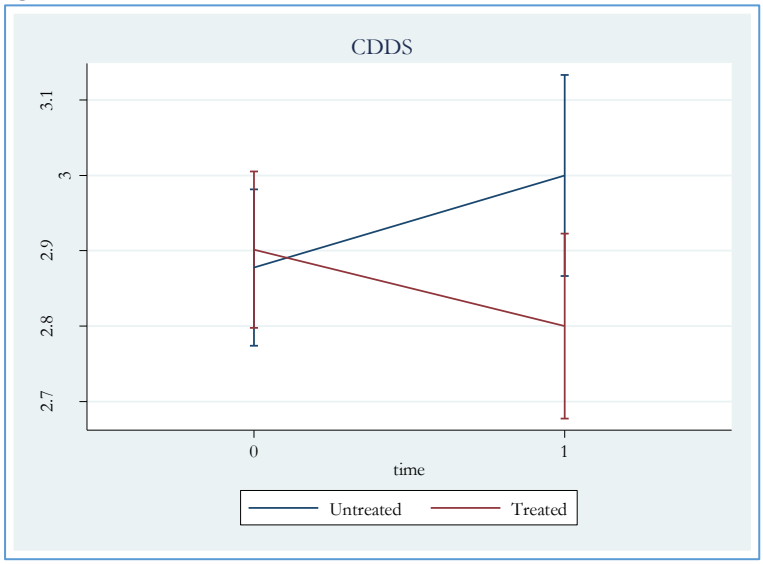
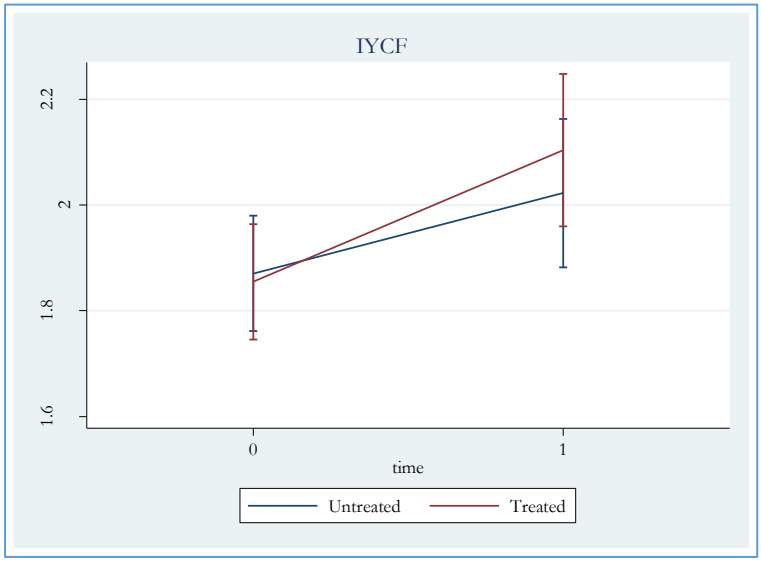


Figure 11 Trends in IYCF over time



5.2.2 Health

We consider two indicators in relation to health, namely the occurrence of illness or injury in the past year and whether treatment was sought in cases of illness or injury. We undertake analysis at household level, looking at these indicators for any household member and for any child under 18 within the household.

We find that the CLM programme reduces the occurrence of illness or injury: programme participation reduces the likelihood of any adult household member or any child within the household falling ill or sustaining an injury. These findings should be regarded with caution, however. Although the occurrence of health issues did decrease among the treatment group, it also increased significantly among the control group. The programme's positive effect is thus at least partly a result of a worsened situation among the control group. We find no positive effects of the programme on seeking treatment when ill or injured: programme participation does not increase the likelihood of treatment when ill or injured. These findings are not easily comparable to findings from evaluations of other programmes as other indicators were used.

Occurrence of illness and injury within households went down from 87.9 percent to 78.5 percent among the treatment group. This compares to an increase from 65.9 percent to 81.3 percent to the control group (Table 10 and Figure 12). We find similar results when only considering illness or injury among children under 18 years of age within households (Table 10 and Figure 13). This results in a significant positive treatment effect (Table 11), indicating that the CLM programme reduces the probability to fall ill by approximately 25 percentage points. However, given the rise in occurrence among the control group – and no obvious reason for why this would be the case – this treatment effect is likely to present an overestimation. Large positive programme impact would also be out of line with evidence from other graduation programmes. Evaluations of programmes in Bangladesh, for example, found no positive effects of programme participation on occurrences of children's diseases such as diarrhoea, fever and infectious diseases (Nisbett et al. 2016; Raza and Van de Poel 2016).

We observe no impact on health-seeking behaviour, as measured by the proportion of those who were injured or ill in the past year not receiving treatment (Table 10). At baseline, 32 percent of all households in the treatment group had members with health issues in the year prior but did not receive any form of treatment (including traditional treatment); this rose slightly to 33.8 percent at endline (Table 10). The control group also experienced small increases in the proportions of households with members who went without treatment, albeit it a much lower level at both baseline and endline (Figure 14). We observe similar patterns when considering health-seeking behaviour for children within households (Table 10 and Figure 15), and do not detect any programme effect (Table 11). This lack of impact appears incongruent with findings in other evaluations of graduation programmes such as in India, Rwanda and Uganda that point towards positive effects on health-seeking behaviour and preventative health care through vaccinations (Devereux and Sabates 2016; Harhay et al. 2017). It should be noted, however, that these findings are based on different indicators and are therefore not directly comparable.

Table 10 Mean values for health indicators for matched sample

Occurrence of illness and injury in past year					
any household member			***any child <18***		
	treatment	control		treatment	control
baseline	87.9	65.9	baseline	88.5	66.0
endline	78.5	81.3	endline	78.9	81.1
No treatment when ill or injured					
any household member			***any child <18***		
	treatment	control		treatment	control
baseline	32.0	26.3	baseline	32.0	26.5
endline	33.8	28.7	endline	34.0	29.4

Table 11 Regression estimates for health indicators

VARIABLES	(1) sick or injury - hh	(2) sick or injury - child	(3) no treatment - hh	(4) no treatment - child
time	1.003***	0.989***	0.129	0.168
	(0.163)	(0.167)	(0.180)	(0.186)
_treated_id	1.624***	1.698***	0.327*	0.313
	(0.201)	(0.209)	(0.191)	(0.198)
time#*_treated_id	-1.827***	-1.857***	-0.057	-0.072
	(0.251)	(0.259)	(0.241)	(0.248)
Constant	0.844***	0.858***	-1.290***	-1.310***
	(0.120)	(0.124)	(0.157)	(0.164)
Number	1,108	1,094	1,027	1,011

*Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1*

Figure 12 Trends in household members experiencing illness or injury

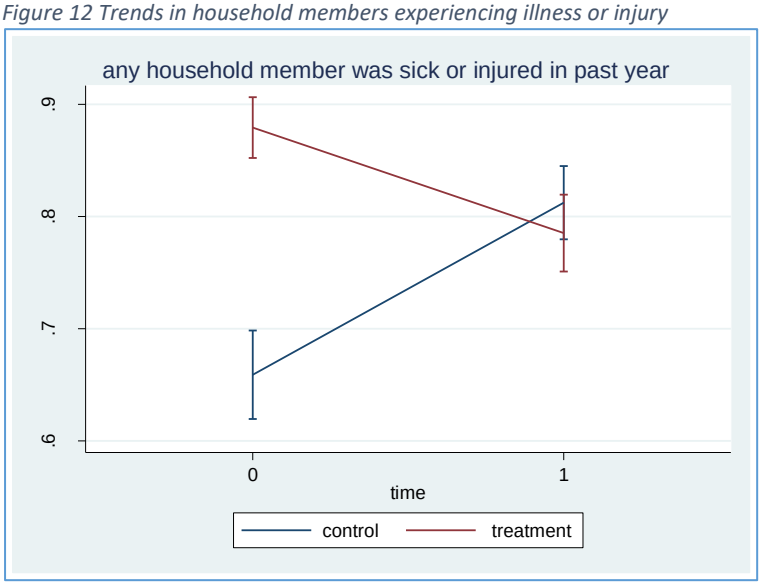


Figure 13 Trends in children experiencing illness or injury

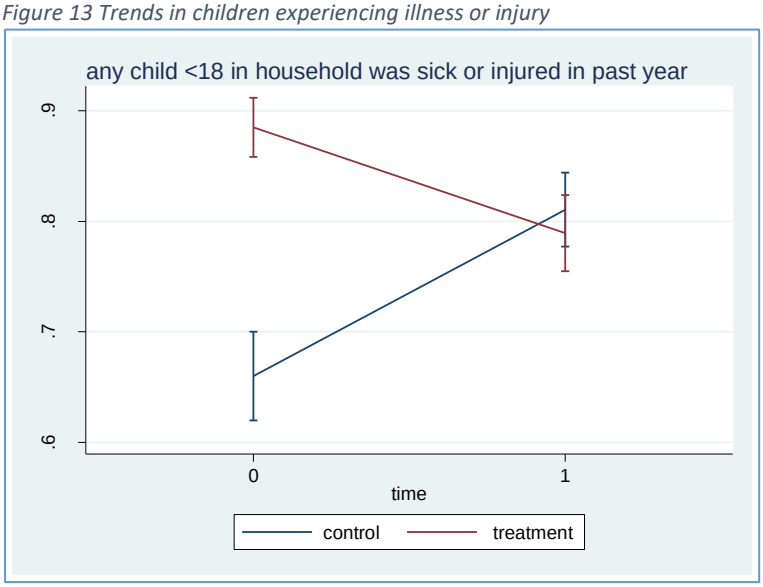


Figure 14 Trends in household members not receiving treatment

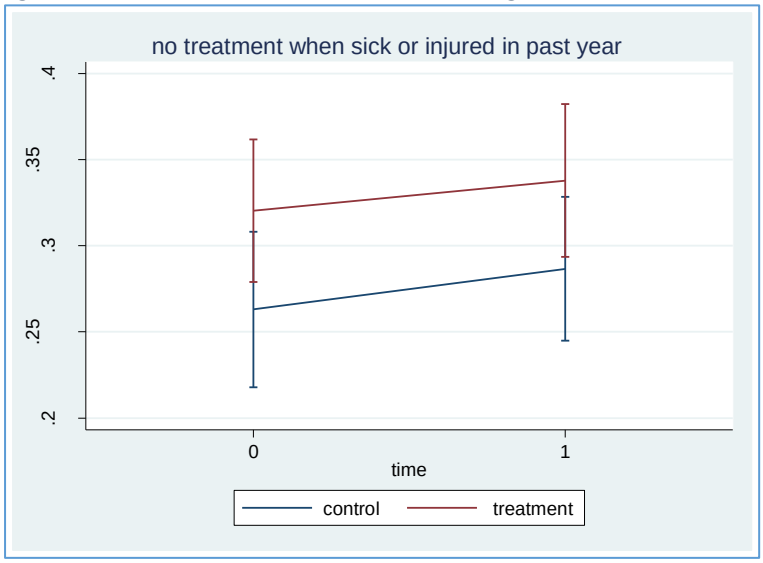
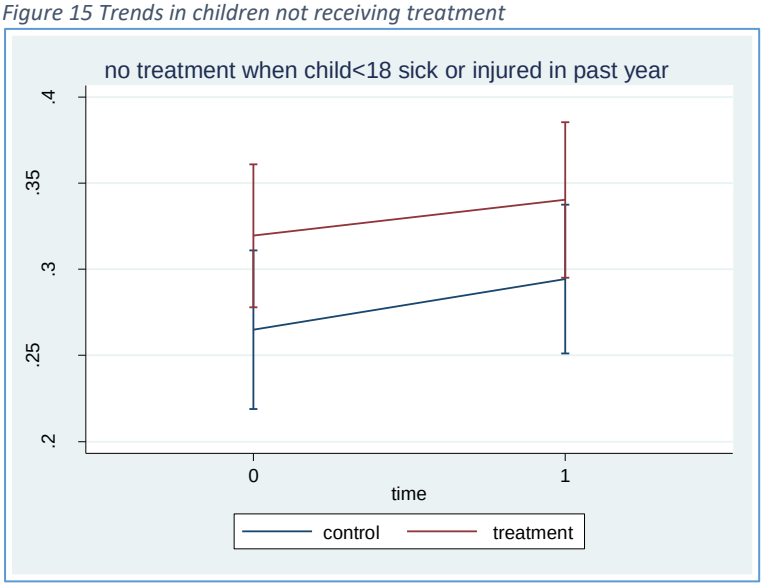


Figure 15 Trends in children not receiving treatment



5.3 Psychosocial risk factors

The psychosocial elements that may represent risk factors or important enabling components of child development that are included in this evaluation are maternal depression, child stimulation and engagement, education, and safety and security.

5.3.1 Maternal depression

Maternal depression represents an important risk factor for child development. We use the Kessler Psychological Distress Scale (K6) and serious mental illness based on K6 as proxies for maternal depression and mental health. The K6 scale of mental illness was developed by Kessler et al. (2003) to assess mental health. The survey module asked how often in the past 30 days the respondent felt any of these six symptoms: nervous, hopeless, restless, so depressed that nothing could cheer them up, that everything was an effort, and worthless. The more frequently someone indicated to experience any of these feelings, the higher the score. A K6 score exceeding 13 indicates that respondents suffer from serious mental illness (Kessler et al., 2010).

The CLM programme has a significant positive effect on women's mental health. Both the K6 score and the likelihood of experiencing mental illness reduce as a result of the programme. These findings are in line with results from other evaluations of graduation programmes as well as cash transfer programmes, which also show that programmes have positive effects on beneficiaries, particularly in the short term.

In terms of the K6 score, the treatment group had an average score of 10.6 at baseline. This reduced to 7.4 at endline. The control group also experienced a decline in the K6 score but not to the same extent (Table 12 and Figure 16). Regression estimates indicate that the CLM programme reduces the K6 score by roughly 2 points (Table 13). The proportion of CLM members suffering from serious mental illness (SMI) fell from 33.4 percent to 14.8 percent (Table 12 and Figure 14). When comparing this reduction to changes over time for the control group, we find that the CLM programme reduces the likelihood of experiencing serious mental illness by 12.8 percentage points. Research on the effect of cash transfers on psychological wellbeing in Kenya (Haushofer and Shapiro 2016) and Zambia (Helm et al. 2017) suggest that reductions in stress levels are an important intermediary for improved outcomes. A multi-country evaluation of graduation programmes also found a positive impact on mental health, including reduced stress, at the end of programme implementation Banerjee et al. 2015).

Table 12 Mean values for maternal depression indicators for matched sample

Maternal depression					
K6 (score)			***SMI (%)***		
	treatment	control		treatment	control
baseline	10.6	11.4	baseline	33.4	37.4
endline	7.4	10.4	endline	14.8	31.6

Table 13 Regression estimates for K6 and SMI

	(1)	(2)
VARIABLES	K6	SMI
time	-1.002***	-0.346**
	(0.219)	(0.148)
_treated_id	-0.863***	-0.237
	(0.265)	(0.171)
time*_treated_id	-2.161***	-1.040***
	(0.310)	(0.230)
Constant	11.437***	-0.707***
	(0.188)	(0.123)
Number	1,108	1,108

*Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1*

Figure 16 Trends in K6 over time

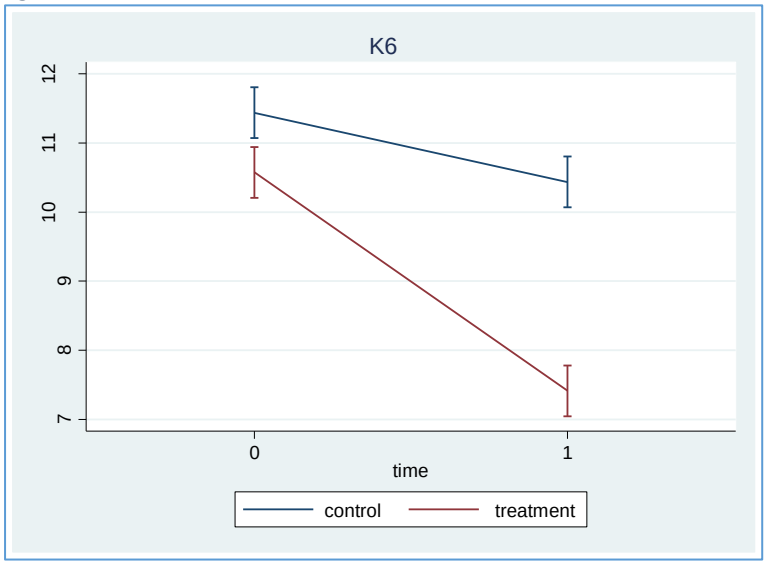
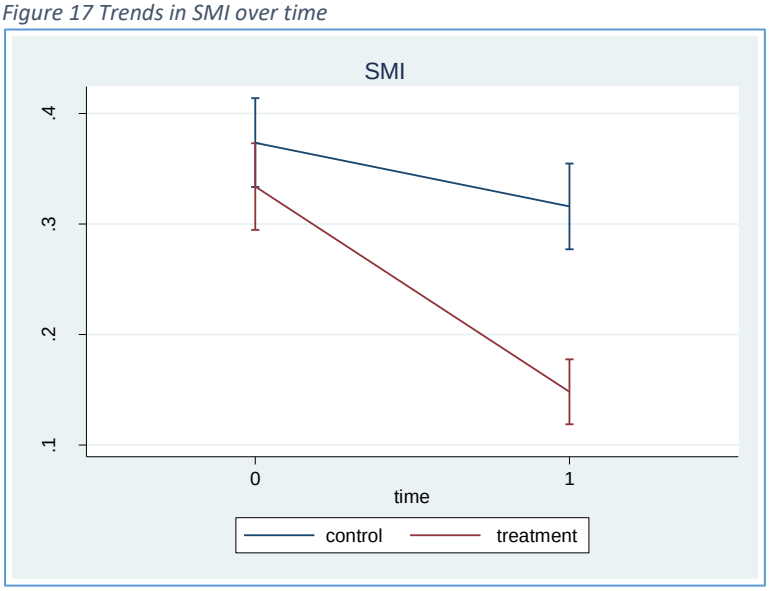


Figure 17 Trends in SMI over time



5.3.2 Child stimulation and engagement

Stimulation and engagement are vital for children's psychosocial and cognitive development. This study considers two aspects, namely the frequency of stimulating activities that adults in the household engage in with their children and occurrence of practices such as talking with and praising children. The first aspect specifically considers children in the age bracket 3-5, while the second aspect refers to children aged 0-18.

With respect to ***child stimulation***, five activities are included, namely telling stories, singing, counting or drawing with children, reading or looking at (picture) books and playing with children in three days prior to the survey. We count the number of activities undertaken with children aged 3-5, either by the main woman in the household or any other adult in the household. We consider three indicators: (i) number of activities undertaken with either main woman or another adult in household (out of maximum of 10[5]), (ii) number of activities undertaken with main woman in the household (out of

[5] This includes a count of any of the five activities undertaken with either main woman in the household or any other adult in the household in past three days.

maximum of 5), and (iii) index score of activities as proportion of maximum number of activities. These indicators are measured at household level and capture whether activities have taken place for any child aged 3-5 within the household[6].

Findings indicate that the CLM programme had no impact on child stimulation as measured by engagement with children in age bracket 3-5. The number of activities undertaken with children increased slightly over time, but this was the case for both treatment and control group, thereby cancelling out any effect. We are unable to compare these findings to other studies as – to the best of our knowledge – other evaluations of graduation programmes or cash transfer interventions have not estimated impacts on activities related to child stimulation.

At baseline, the average number of activities undertaken with children aged 3-5 by any adult in the household is 4.7 for the treatment group and 3.5 for the control group. This increases to 5.4 and 4.3 respectively (Table 14 and Figure 18). The number of activities undertaken with the main woman in the household also increases for both groups, namely from 2.7 to 3.0 and from 2.0 to 2.4 respectively (Table 14 and Figure 19). This is also reflected in the index of average activities as a share of total activities (Table 14 and Figure 10). Given that increases in the number of activities for the treatment group go hand-in-hand with increases for the control group, we do not observe any programme effect (Table 15).

Table 14 Mean values for child stimulation indicators for matched sample

Child stimulation								
# activities with any adult			***# activities with main woman***			***index of activities***		
	treatment	control		treatment	control		treatment	control
baseline	4.7	3.5	baseline	2.7	2.0	baseline	0.47	0.35
endline	5.4	4.3	endline	3.0	2.4	endline	0.54	0.43

Table 15 Regression estimates for child stimulation indicators

	(1)	(2)	(3)
VARIABLES	# activities all adults	# activities main woman	index of activities
time	0.823***	0.410***	0.082***
	(0.205)	(0.107)	(0.021)
_treated_id	1.160***	0.677***	0.116***
	(0.221)	(0.115)	(0.022)
time*_treated_id	-0.039	-0.095	-0.004
	(0.280)	(0.145)	(0.028)
Constant	3.455***	2.001***	0.346***
	(0.161)	(0.084)	(0.016)
Number	754	754	754

*Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1*

[6] Note that 85 percent of households with children in age bracket 3-5 only had one child in this age bracket. In other words, indicators will reflect the situation of a single child in the large majority of households.

Figure 18 Trends in # activities with adults over time

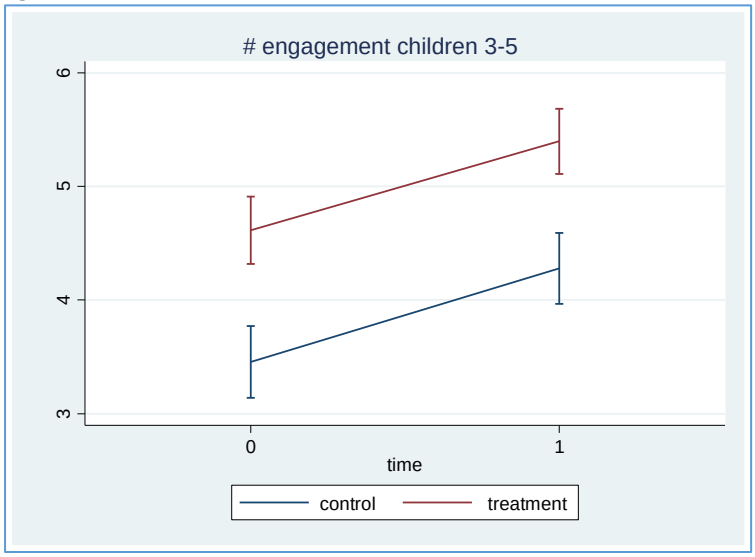


Figure 19 Trends in # activities with main woman over time

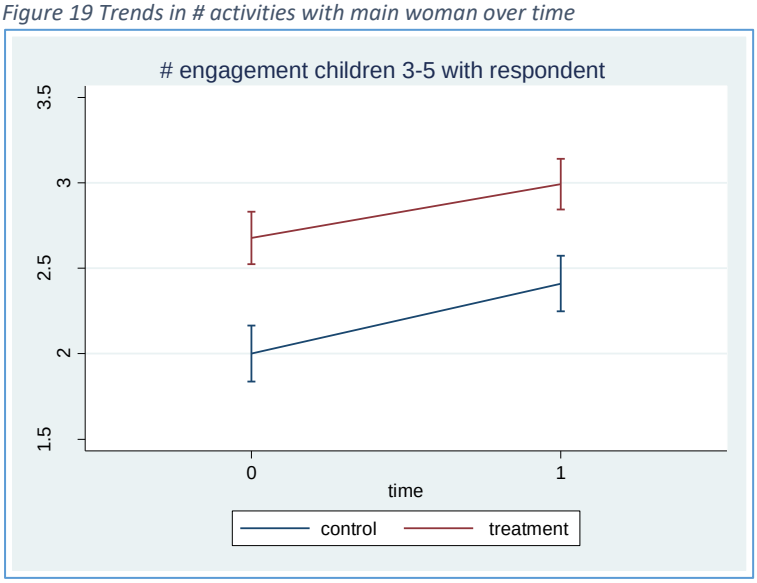
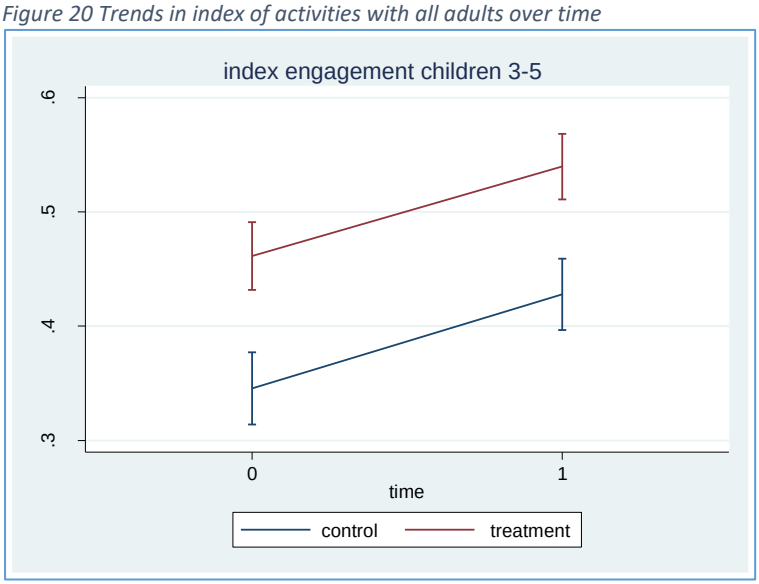


Figure 20 Trends in index of activities with all adults over time



In terms of ***child engagement***, we consider two types of engagement between main woman in the household and her children. Firstly, we asked women whether they ask children about school, work or friends, either often or sometimes. Secondly, we asked women whether they praised their children, either often or sometimes, if they did something well.

The CLM programme has some positive impact on engagement with children. Results indicate that participation in the CLM programmes increases the occurrence of women asking their children about school, work or friends. No impact can be observed in relation to praising children, which is largely due to the control group also experiencing an increase with respect to this indicator. To the best of our knowledge no other evaluations of graduation programmes or cash transfer interventions have explored impact on engagement with children.

In terms of asking children about school, work or friends, 55.7 percent of the treatment group indicated to ask children about their daily lives sometimes or often at baseline. This had increased to 77.8 percent at endline (Table 16 and Figure 21). When estimating the treatment effect in relation to the control group, we find that this can be attributed to the programme (Table 17). The CLM programme increases the likelihood that mothers ask their children questions by 13.2 percentage points.

With respect to praise, 78 percent of respondents in the treatment praise their children sometimes or often at baseline. This increased by 9 percentage points over the programme period to 87 percent. We observe a similar pattern for the control group with increase in the occurrence of praising children of 10 percentage points between baseline and endline, albeit at a lower level (Table 16 and Figure 22). It is unclear what caused this increase among the control group. Given these increases for the control group, the programme does not have any attributable impact (Table 17).

Table 16 Mean values for child engagement indicators for matched sample

Engagement with children					
Ask children			***Praise children***		
	treatment	control		treatment	control
baseline	57.2	55.8	baseline	78.2	69.7
endline	77.8	63.2	endline	87.4	79.9

Table 17 Regression estimates for engagement with children

	(1)	(2)
VARIABLES	ask child	praise
time	0.477***	0.739***
	(0.154)	(0.166)
_treated_id	0.092	0.608***
	(0.190)	(0.189)
time*_treated_id	1.004***	0.119
	(0.231)	(0.248)
Constant	0.363***	1.157***
	(0.135)	(0.138)
Number	1,108	1,108

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Figure 21 Trends over time for asking children about school, work and friends

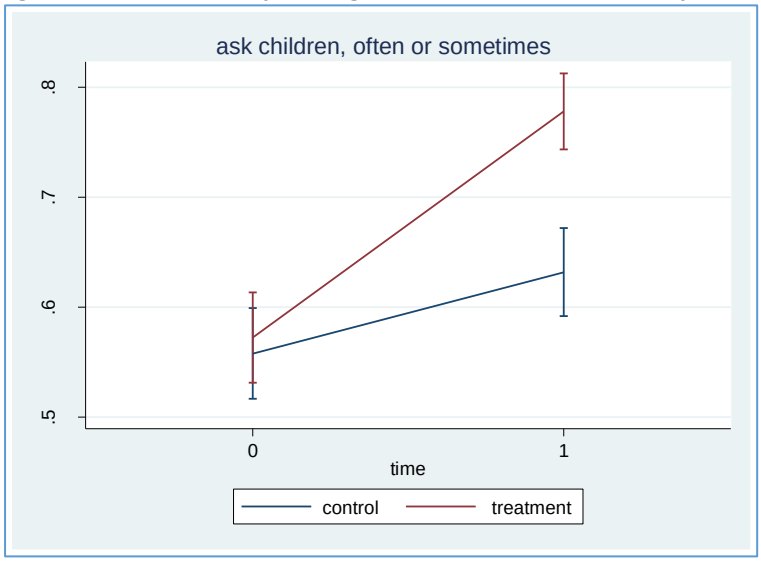
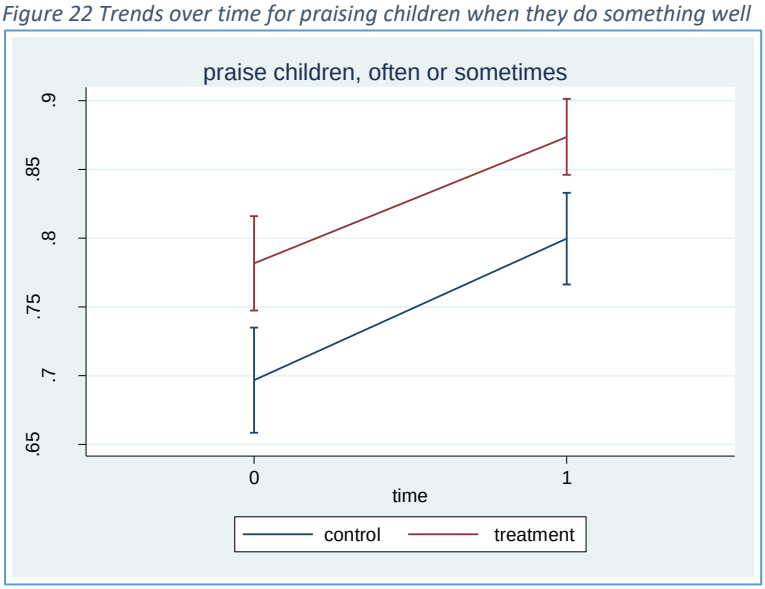


Figure 22 Trends over time for praising children when they do something well



5.3.3 Education

For education, we consider programme impact on school attendance of children in age group 6-12 (primary school age) and in age group 13-17 (secondary school age). We do so at household level, considering whether any child in the respective age bracket was reported to attend school at the time of data collection.

Findings indicate that the CLM programme has a strong and significant impact on school attendance. The probability that any child in age group 6-12 or 13-17 attends school in households that participate in the CLM programme increases significantly as a result of the programme. These positive findings are in line with evaluation findings from graduation programmes in other contexts, including Burundi, Kenya, Pakistan, Rwanda and Uganda (Roelen et al. 2019).

School attendance rates for any children aged 6-12 in households in the treatment group rose from 54.2 percent at baseline to 93 percent at endline. The control group also experienced an increase: from 69.6 percent at baseline to 82.9 at endline (Table 18 and Figure 23). The increase was much larger for the treatment group, however, leading to a treatment effect of 25.5 percentage points. A

similar effect can be observed for children aged 13-17, with attendance rates increasing from 65.6 percent at baseline to 95.5 percent at endline for the treatment group (Table 18 and Figure 24). Even after taking into account the rise in attendance rates among the control group, this results in a significant treatment effect (Table 19) with the CLM programme increasing the probability for any child in age 13-17 to attend school with 25 percentage points. These effects appear stronger in comparison to impacts of graduation programmes elsewhere; in Burundi, for example, evaluation results point towards a marginal effect of 21 percentage points (Devereux et al. 2015).

Table 18 Mean values for school attendance indicators for matched sample

School attendance					
children aged 6-12			***children aged 13-17***		
	treatment	control		treatment	control
baseline	54.2	69.6	baseline	65.6	79.8
endline	93.0	82.9	endline	95.5	84.7

Table 19 Regression estimates for school attendance

VARIABLES	(1) attendance 6_12	(3) attendance 13_17
time	1.021***	0.368
	(0.228)	(0.331)
_treated_id	-0.951***	-0.970***
	(0.229)	(0.358)
time*_treated_id	2.252***	2.671***
	(0.381)	(0.641)
Constant	1.201***	1.884***
	(0.180)	(0.348)
Number	756	462

*Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1*

Figure 23 Trends over time for school attendance children 6-12

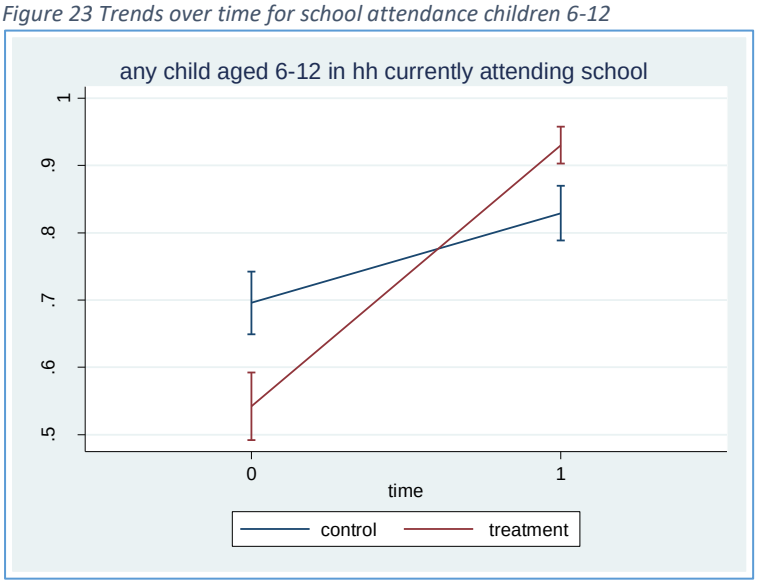
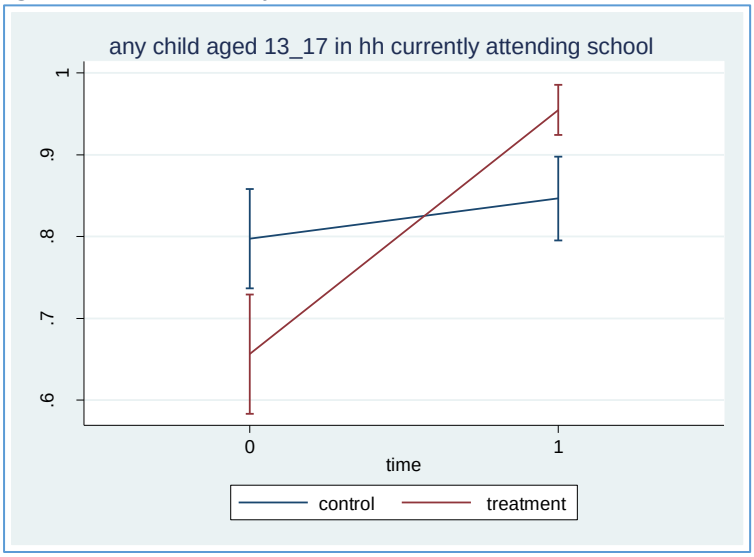


Figure 24 Trends over time for school attendance children 13-17



5.3.4 Safety and security

We consider two aspects of safety and security, namely (i) exposure to violent and harmful practices in the household and community and (ii) attitudes towards child disciplining.

Exposure to violence and harmful practices – both in the household and community – is a risk factor that undermines child development. Respondents were asked a range of questions with respect to how often certain practices were happening in their community. This includes observations or personal experiences of physical violence at home, in school or in the community generally; threats, neglect and humiliation of children; forced marriage; children selling sex for clothes, food or money; sending children to work as domestic servants; and giving children away in exchange for money.

The CLM programme has mildly positive effects on children's exposure to violence and harmful practices. The occurrence of children being exposed to harsh corporal punishment, children witnessing violence at home and children being sent to work as domestic servants decreased as a result of the programme. We also find a programme effect with respect to children witnessing violence outside of the home. However, these results should be interpreted with caution as they mostly result from a deterioration of the situation among the control group. There is not much evidence to compare these findings. Evaluations of cash transfers suggest that interventions can reduce intimate partner violence (IPV) at home but findings are very dependent on context (Buller et al 2018).

The proportion of respondents reporting that their children were exposed to harsh beating or corporal punishment reduced from 69.7 percent to 53.9 percent for the treatment group. This compares to a much smaller decrease for the control group (Table 20 and Figure 25), leading to a significant treatment effect (Table 21). The CLM programme reduces the likelihood of children being exposed to harsh corporal punishment by 10 percentage points.

The CLM programme also leads to a decrease in children witnessing violence at home, although the treatment effect is only significant at 5 percent respectively (Table 21). At baseline, 59 percent of respondents in treatment group reported their children to witness violence at home; this reduced to 45 percent at endline. The control group also experienced a decline but this was much smaller (Table 20 and Figure 26). In combination, this leads to a treatment effect of 7.7 percentage points. Results with respect to witnessing violence outside of the home should interpreted with caution. Although

we observe a significant treatment effect (Table 21), this is mostly a result of an increase in the control group of children witnessing violence outside of the home (Table 20 and Figure 27).

Programme participation reduces cases of children being sent to work as domestic servants within the community. At baseline, 71.4 percent of respondents in the treatment group reported to have witnessed children from within their community to have been sent to work as domestic servants. This reduced to 60.5 percent (Table 20). As this is accompanied by only a small decrease in the reported frequency among the control group (Table 20 and Figure 28), we estimate a significant treatment effect of 8 percentage points. Although the question did not directly refer to the practice of 'restavek', this finding suggests that the CLM programme may play a role in reducing its occurrence.

Table 20 Mean values for violence and harmful practices indicators for matched sample

Exposure to violence and harmful practices					
harsh corporal punishment of children			***children witnessing violence at home***		
	treatment	control		treatment	control
baseline	69.7	50.9	baseline	58.9	42.7
endline	53.9	45.3	endline	45.0	36.5
children witnessing violence outside home/ at school			***children being sent to work as domestic servants***		
	treatment	control		treatment	control
baseline	69.9	61.2	baseline	71.4	69.6
endline	66.9	66.5	endline	60.5	66.9

Table 21 Regression estimates for violence and harmful practices

	(1)	(2)	(3)	(4)
VARIABLES	punishment	violence home	violence outside home	domestic servants
time	-0.339**	-0.292*	0.355**	-0.203
	(0.159)	(0.163)	(0.165)	(0.184)
_treated_id	1.205***	0.847***	0.540***	0.094
	(0.204)	(0.184)	(0.196)	(0.226)
time*_treated_id	-0.660***	-0.402*	-0.508**	-0.515**
	(0.227)	(0.224)	(0.234)	(0.252)
Constant	0.033	-0.396***	0.604***	1.320***
	(0.138)	(0.133)	(0.139)	(0.177)
Number	1,100	1,058	1,074	1,093

*Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1*

Figure 25 Trends over time for exposure to harsh punishment

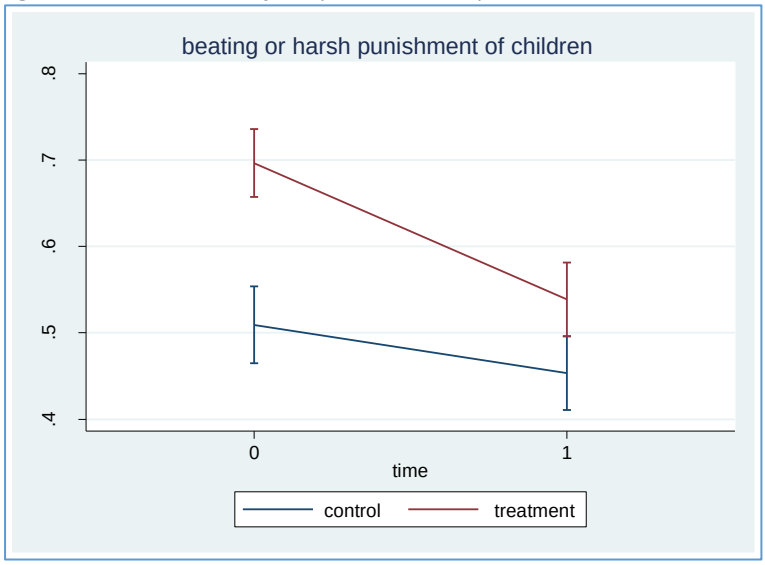


Figure 26 Trends over time for children witnessing violence at home

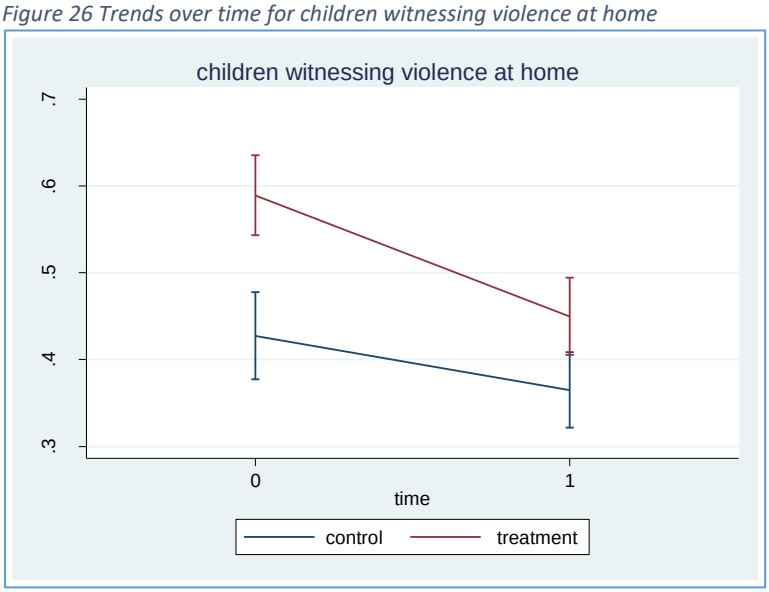


Figure 27 Trends over time for children witnessing violence outside the home

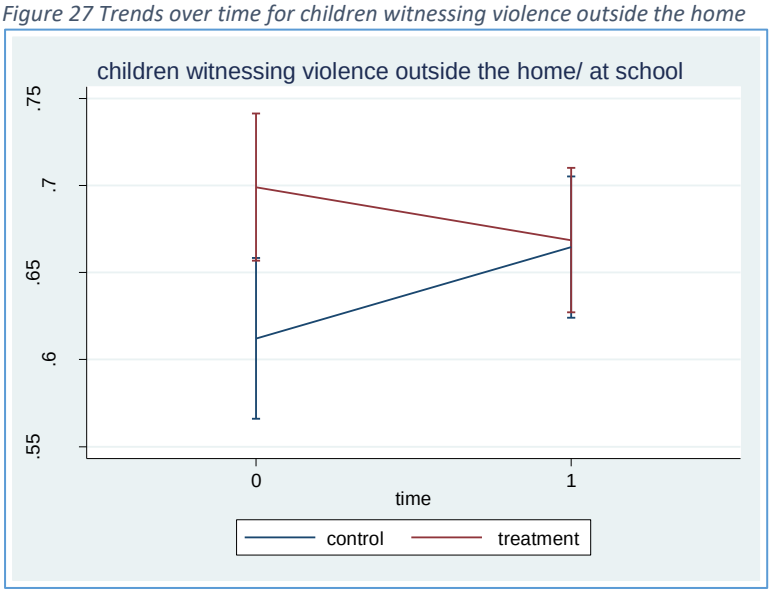
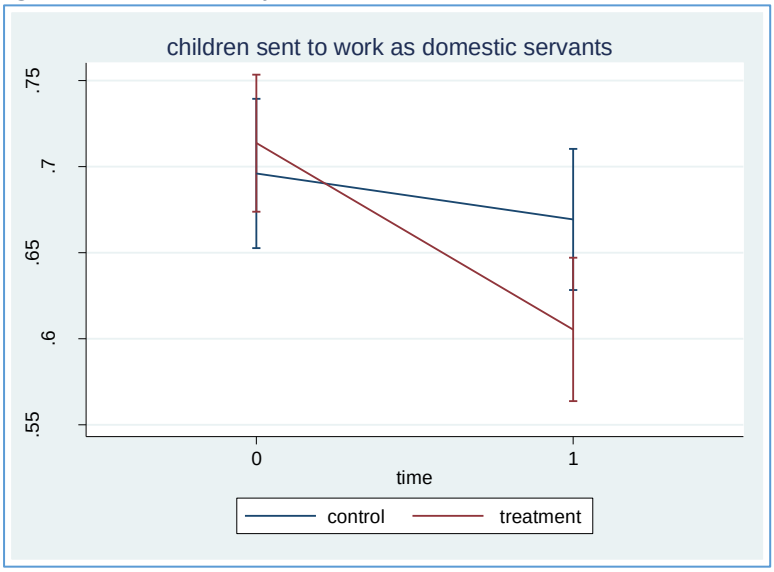


Figure 28 Trends over time for children sent to work as domestic servants



We use two indicators to consider respondents' attitudes towards ***disciplining practices***. Women were asked whether they agree or strongly agree that it is okay to hit their child when it is disobedient or when they do not want to go to school. We do so in acknowledgement that physical disciplining of children is commonplace and widely accepted practice across Haiti while at the same highlighting that such practices may hold risks for children.

The CLM programme does not have a significant effect on attitudes towards child disciplining practices. The large majority of respondents indicated that it was okay to hit their child when they are disobedient or do not want to go to school, and this stayed constant across the programme period. The lack of impact is perhaps unsurprising given the widespread practice of child disciplining and support for doing so from case managers (as found in the qualitative research presented in Roelen et al. 2019). At the same time, we do observe a decrease in children being exposed to harsh beating and corporal punishment (see above).

At baseline, 98.9 percent of the treatment group indicated that they agreed or strongly agreed with hitting their child when disobedient. This reduced to 96.6 percent at endline. However, this small reduction is mirrored by a similar trend for the control group, resulting in no overall programme effect (Tables 22 and 23). The same holds for attitudes towards hitting children when they are not wanting to go to school. Although the graphs suggest a sharp decline in such attitudes, these only represent very small reductions in respondents indicating that it is okay to hit their child when disobedient or not wanting to go to school (Figures 29 and 30.

Table 22 Mean values for child disciplining indicators for matched sample

Child disciplining attitudes					
Hit child when disobedient			***Hit child when missing school***		
	treatment	control		treatment	control
baseline	98.9	98.6	baseline	99.3	98.9
endline	96.6	96.4	endline	98	96.6

Table 23 Regression estimates for child disciplining indicators

VARIABLES	(1) disobedient	(2) no school
time	-0.962**	-1.243**
	(0.430)	(0.490)
_treated_id	0.294	0.434
	(0.551)	(0.669)
time*_treated_id	-0.240	0.176
	(0.640)	(0.769)
Constant	4.607***	5.306***
	(0.684)	(0.830)
Number	1,108	1,108

*Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1*

Figure 29 Trends in time for attitudes towards hitting children when disobedient

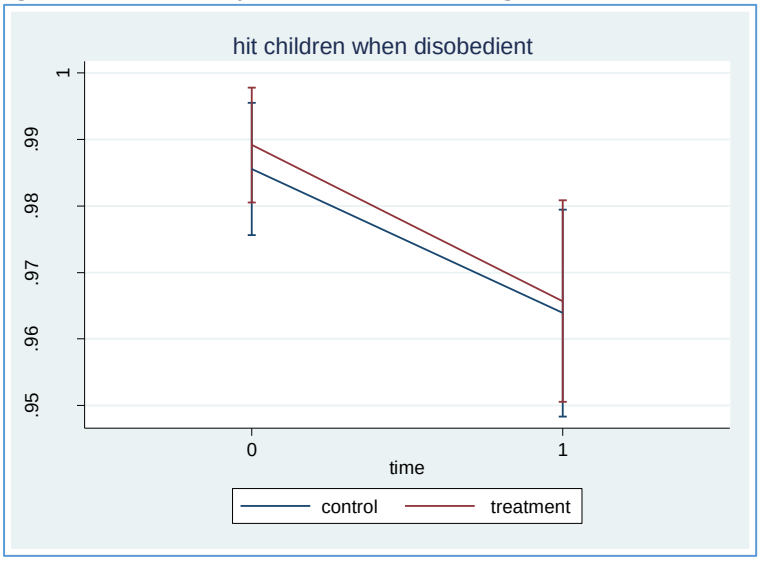
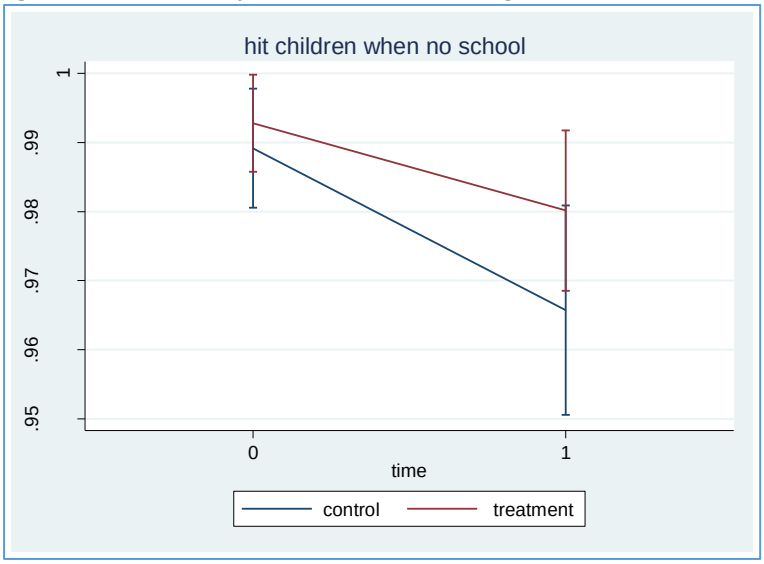


Figure 30 Trends in time for attitudes towards hitting children when not wanting to go to school



5.4 Work and care

The role of paid work and rise in productive activities deserve special consideration in relation to child development and child wellbeing. Paid work and income generating activities are important for reducing poverty but may also come at a cost in terms of care for children in terms of increased time burden and drudgery for women. The survey questionnaire included questions regarding the amount of time spent on paid work and care work and who else is helping out with activities. We explore this data by comparing the situation at the start and at the end of the programme.

Firstly, we consider ***women's time use in relation to paid work and care work***. Figures 31 and 32 present the proportions of women in relation to the number of hours they spend at baseline and endline on paid work and care work respectively.

CLM members spent more time on paid work at the end of the programme period compared to the start of the programme. At baseline, 57.2 percent of CLM members spent less than four hours per day on paid work; at endline, this had dropped to 29.1 percent. At endline, 50.3 percent of women were spending 4-8 hours on paid work on a typical day, and 20.7 percent spend more than 8 hours (Figure 31). This increase is line with expectations given the CLM programme's focus on supporting income-generating activities.

This increase in time spent on paid work went hand-in-hand with a decrease in time spent on care work, although not to the same extent (Figure 32). Most notably, there was a shift from spending 2-4 hours per day on care work at baseline to 0-2 hours per day at endline. At baseline, 35.8 percent of women spent 0-2 hours per day on care work; at endline this had increased to 44.6 percent.

Figure 31 Number of hours spent on paid work

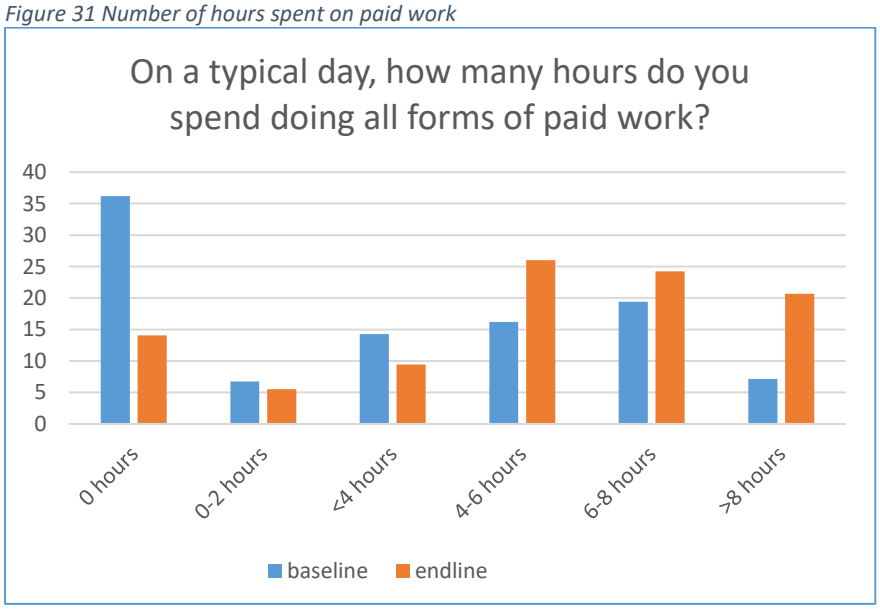
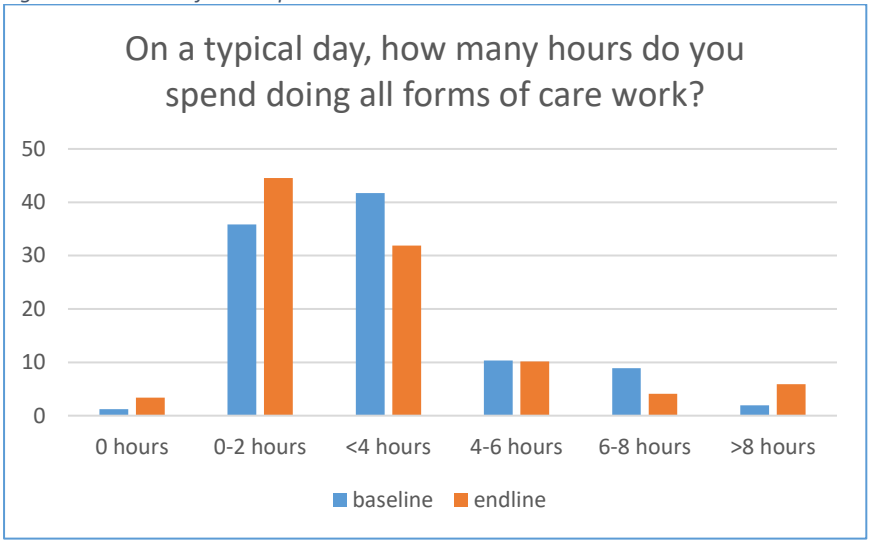


Figure 32 Number of hours spent on care work



Secondly, we find that women are now more likely to get ***support from others in the household*** to support with care work and for others to be engaged in paid work (Table 24).

At baseline, 39 percent of women did not receive any support from others in providing care work; at endline, this had reduced to 20.3 percent. When considering who is offering this support, it becomes evident that children have become more strongly involved. Daughters were providing care work in 24.1 percent of the cases at baseline; this had increased to 37.6 percent at endline. We also observe a small increase for sons being engaged in care work, from 7.5 at baseline to 11.6 percent at endline.

Others in the household are more likely to be engaged in paid work at the end of the programme than at the start of the programme. Most of this additional engagement is by spouses. At baseline, 60.1 percent of women indicated that paid work was also undertaken by their spouses; at endline, this had increased to 70.4 percent. We do not observe large involvement of children in paid work.

Table 24 Engagement of others in care work and paid work

	Who else mainly supports you with care work in this household?		**Who else mainly undertakes paid work in the household?**	
	baseline	endline	baseline	endline
No one	39.0	20.3	25.5	20.0
Spouse/Partner	15.3	19.6	60.1	70.4
Daughter(s)	24.1	37.6	0.9	1.3
Son(s)	7.5	11.6	4.5	4.8
Another woman in the hh	5.5	3.2	2.5	0.2
Another man in the hh	0.2	0.4	1.4	0.5
Another child living in the hh	1.6	0.9	0.2	0.2
Adult domestic worker	0.7	0.5	0.5	0.2
Community member(s)	0.4	0.0	0.0	0.0
Other	5.7	5.9	4.5	2.5

Findings based on questions about household members' individual involvement in household activities indicate that younger children are particularly more likely to get involved in care work, and in fetching water and firewood (Table 25). At baseline, 27.7 percent of children aged 5-9 were engaged in care work; at endline, this increased to 41.4 percent. We also observe increases for children aged 10-14, albeit smaller. As also noted above, we observe little change in engagement in paid work.

Table 25 Children's engagement in different types of work

Proportion of children engaging in type of work				
	age 5-9		age 10-14	
	baseline	endline	baseline	endline
Care work	27.7	41.4	61.0	68.1
Fetching water or firewood	59.0	64.4	86.3	89.4
Paid work	1.5	1.5	9.3	8.3

When considering the number of hours that children engage in these activities, we do not find a strong increase in the amount of time that children spend on these activities (Table 26). In terms of care work, the majority of children spend 0-2 hours on these activities at both baseline and endline with proportions of children working longer hours slightly going down across the programme period. We observe a similar pattern for fetching water or firewood; the proportions of children engaging 2-4 hours on this activity on a typical day goes down from baseline to endline while the proportions of children engaging 0-2 hours increases across the programme period. This holds for both age groups, although children aged 10-14 generally engage for more hours than children aged 5-9.

Table 26 Children's time spent on different types of work

On a typical day, number of hours spent per day on type of work				
Care work	age 5-9		age 10-14	
	baseline	endline	baseline	endline
0-2 hours	83.7	90.8	71.1	76.8
2-4 hours	13.2	8.1	23.3	19.6
4-5 hours	0.8	1.2	2.8	3.0
5-7 hours	2.3	N/A	2.8	0.7
Fetching water or firewood	age 5-9		age 10-14	
	baseline	endline	baseline	endline
0-2 hours	75.6	85.1	61.1	78.7
2-4 hours	17.1	12.6	31.8	18.3
4-5 hours	2.2	1.5	2.0	2.0
5-7 hours	2.9	0.7	2.3	1.1
>7 hours	2.2	N/A	2.8	N/A
Paid work	age 5-9		age 10-14	
	baseline	endline	baseline	endline
0-2 hours	100.0	75.0	13.2	33.3
2-4 hours	N/A	25.0	15.8	9.1
4-5 hours	N/A	N/A	31.6	39.4
5-7 hours	N/A	N/A	31.6	18.2
>7 hours	N/A	N/A	7.9	N/A

6 Conclusion

This report provides findings from a quantitative evaluation of the impact of the CLM programme on child development and child wellbeing. As such, the evaluation aimed to gain insight into the role that graduation programmes can play in breaking the intergenerational transmission of poverty, and lead to 'intergenerational graduation'. We focused on factors that are widely understood to be important for child development and wellbeing, including poverty, nutrition, maternal mental health, child stimulation, education and safety and security. We also considered the balance between paid work and unpaid care, considering the potential tension that may arise for primary caregivers between providing quality care for their children while engaging in income generating activities at the same time.

We find that the CLM programme has a positive effect in some areas of child development, namely household living standards, access to food, maternal mental health, education, some child engagement practices and exposure to certain violent and harmful practices.

Effects are largest in outcome areas that are strongly related to availability of economic resources, such as perceptions of whether there is enough money to provide for children and access to food. This suggests a considerable direct income effect. We also observe large impacts for indicators that are strongly related to support that is directly provided through the programme, such as support with upgrading roof materials and drinking safe drinking water. This points towards a joint income effect and training effect. It should be noted, however, that despite considerable improvements as a result of the programme, some indicators remain at a relatively low level. A minority of women indicates to – at least sometimes – have sufficient funds to provide for their children, and the average number of meals per day consumed by children and adults in households of CLM members at the end of the programme would still constitute food insecurity.

We also find evidence for an indirect income effect. The CLM programme greatly improves maternal mental health, reduces exposure to harsh corporal punishment and violent scenes at home, and reduces the occurrence of children in the community being sent to work as domestic servants. Evaluations of other programmes suggest that the reduction of poverty-related stress can be an important mediating factor in improving mental health and reducing violence. Greater availability of economic resources may also reduce families' need to send children to work as domestic servants.

The programme has limited impact in other areas that are important for child development. Child feeding practices, undertaking stimulating activities with children, and attitudes regarding child disciplining are not affected by the programme. Certain areas of positive engagement with children – such as asking them about school, work and friends – are positively affected, while others – such as praising children – are not. The training and behavioural effect may arguably be most important for affecting change in these areas. Given the set of messages that are provided throughout the programme period, it is surprising to see no impact on child feeding practices. Lack of impact in areas of stimulating activities and child disciplining is more plausible as the programme does not focus on these areas.

Finally, findings indicate that the CLM programme contributes to changes in women's time use towards spending more hours on paid work away from care work. Children appear to fill the gap as they increase their engagement in care work over the course over the programme period. This is a highly gendered and age-based shift: it involves mostly daughters and mostly young children aged 5-9. Children who are involved in care work do not tend to spend more time on these activities, and on

average spend up to two hours per day. This suggests that the main concern may not be those children engaged in care work, but rather those that they care for.

Finding of this quantitative evaluation largely confirm results from qualitative research as presented in Roelen et al. 2019). CLM improves conditions at the level of the household and their main caregiver, which are prerequisites for children to thrive and develop. The programme has little impact in terms of affecting children's lives in more child-focused ways. Given the programme's focus on affecting economic and social change for female beneficiaries and their household as a whole, many findings will not come as a surprise. There is potential for the CLM programme to improve its impact by making messaging regarding child nutrition and stimulation a more central element of the programme. Lessons from the qualitative research suggest that addressing the gendered division of care for children, and the difficulties that female beneficiaries face in juggling engagement in income-generating activities and child care, also holds potential for improving programme impact.

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Appendix

Table A Propensity score regression coefficients

Variables	*coefficient*	*standard error*	*z*	*p-value*
ppi_q1_destr (department where respondent lives)	-0.055	0.030	-1.8	0.072
ppi_q2_destr (household size)	-0.028	0.009	-3.29	0.001
ppi_q3_new (household members who work)	0.115	0.038	3.07	0.002
ppi_q5_destr (literacy of respondent)	-0.189	0.068	-2.77	0.006
ppi_q6_destr (literacy of spouse)	0.070	0.044	1.59	0.111
q_104 (age of respondent)	-0.004	0.006	-0.7	0.486
q_105 (marital status of respondent)	0.179	0.068	2.64	0.008
_cons	-0.055	0.301	-0.18	0.854

Table B Balancing of covariates (for outcomes applicable to full sample)

Variable	**Unmatched (U) Matched (M)**	**Mean Treated**	**Control**	**%bias**	**%reduct Bias**	**t-test t**	**p>t**	**V(T)/ V(C)**
ppi_q1_destr	U	4.8628	5.1716	-15.5		-2.63	0.009	**1**
	M	4.8628	5.0578	**-9.8**	36.9	-1.62	0.105	**1**
ppi_q2_destr	U	10.143	11.952	-24.6		-4.17	0	**0.74***
	M	10.143	10.924	**-10.6**	56.8	-1.89	0.059	**0.95**
ppi_q3_new	U	2.4152	2.0396	22.8		3.89	0	**1.01**
	M	2.4152	2.1372	**16.9**	26	2.82	0.005	**1.01**
ppi_q5_destr	U	0.29242	0.4703	-17.9		-3.02	0.003	**0.67***
	M	0.29242	0.35199	-6	66.5	-1.07	0.286	**0.85**
ppi_q6_destr	U	0.9639	0.9604	0.2		0.04	0.969	**1.06**
	M	0.9639	0.90614	3.8	-1549	0.64	0.524	**1.08**
q_104	U	34.487	33.972	4.5		0.77	0.444	**1.02**
	M	34.487	34.202	2.5	44.7	0.42	0.676	**1.05**
q_105	U	2.4657	2.3515	12.2		2.08	0.038	**0.96**
	M	2.4657	2.3971	7.3	39.9	1.23	0.221	**0.97**

Table C Balancing of covariates (for outcome with reduced sample: CDDS)

Variable	Unmatched (U) Matched (M)	Mean Treated	Control	%bias	%reduct bias	t-test t	p>t	V(T)/ V(C)
ppi_q2_destr	U	9.3218	10.806	-21.8		-3.03	0.003	0.82
	M	9.3218	10.439	-16.4	24.7	-2.31	0.021	0.9
ppi_q3_new	U	2.378	2.136	14.9		2.08	0.038	1.03
	M	2.378	2.218	9.9	34	1.36	0.175	1.06
ppi_q5_destr	U	0.319	0.491	-16.8		-2.33	0.02	0.69*
	M	0.319	0.391	-7	58.3	-1.02	0.31	0.84
ppi_q6_destr	U	1	0.992	0.5		0.07	0.946	1.01
	M	1	0.963	2.4	-392.7	0.33	0.74	1.02
ppi_q10_destr	U	0.245	0.370	-27.4		-3.81	0	.
	M	0.245	0.354	-23.8	13.2	-3.28	0.001	.
q_104	U	33.282	33.353	-0.7		-0.09	0.927	1.06
	M	33.282	33.729	-4.2	-531.7	-0.57	0.568	1.06
q_105	U	2.367	2.257	12.9		1.79	0.074	0.98
	M	2.367	2.293	8.7	32.4	1.19	0.233	0.98
q_106	U	0.569	1.501	-15.4		-2.11	0.035	0.01*
	M	0.569	1.465	-14.8	3.8	-1.97	0.049	0.01*
q_107	U	0.356	0.415	-12.2		-1.69	0.091	0.94
	M	0.356	0.391	-7.1	41.6	-0.98	0.328	0.96

Table D Checking significant differences for samples before and after matching (for outcomes based on full sample)

	Treatment & All Control				***Treatment & Matched Control***			
	Treatment	***All Control***	***Difference***	***P-Values***	***Treatment***	***Matched Control***	***Difference***	***P-Values***
ppi_q1_destr	4.863	5.172	0.309	0.009	4.863	6.972	*0.195*	*0.105*
ppi_q2_destr	10.143	11.952	1.810*	0.000	10.143	10.924	*0.782*	*0.059*
ppi_q3_new	2.415	2.04	-0.376*	0.000	2.415	2.137	*-0.278*	*0.005*
ppi_q5_destr	0.292	0.47	0.178	0.003	0.292	0.352	*0.060*	*0.286*
ppi_q6_destr	0.964	0.96	-0.004	0.969	0.964	0.906	*-0.058*	*0.524*
q_104	34.487	33.972	-0.515	0.444	34.487	34.202	*-0.285*	*0.676*
q_105	2.466	2.351	-0.114	0.038	2.466	2.397	*-0.069*	*0.221*
N	554	606			554**	554**		

Figure 33 Propensity score before and after matching

