ePact
Strengthening evaluation effectiveness and impact

UKaid
from the British people

Child Development Grant Programme Evaluation

Quantitative Endline Report Volume I: Final Endline Findings

Pedro Carneiro, Imran Rasul, Giacomo Mason, Lucy Kraftman, and Molly Scott

July 2019

Oxford Policy Management

itad

e-Pact is a consortium led by Oxford Policy Management and co-managed with Itad

In association with:

Institute for Fiscal Studies

Preface

This report presents the findings from the endline survey for the quantitative impact evaluation of the Child Development Grant Programme (CDGP) in northern Nigeria. The household survey data collection for this endline report was conducted from August to October 2018. This follows on from a midline survey conducted from October to December 2016 and a baseline survey conducted from August to October 2014. This report was produced by Pedro Carneiro, Imran Rasul, Giacomo Mason, Lucy Kraftman and Molly Scott.

Disclaimer

This material has been funded by UK aid from the UK Government; however, the views expressed do not necessarily reflect the UK Government's official policies.

This assessment is being carried out by e-Pact. The project manager is Andrew Kardan. The remaining workstream team leaders for this evaluation are Kay Sharp (Qualitative Impact Evaluation), Molly Scott (Quantitative Impact Evaluation), and Aly Visram (Process Evaluation). Dr Imran Rasul is the technical director for the Quantitative Impact Evaluation workstream. The other team members for the Quantitative Impact Evaluation workstream are Pedro Carneiro, Giacomo Mason, and Femi Adegoke. For further information contact (andrew.kardan@opml.co.uk).

The contact point for the client is Sam Coope (s-coope@dfid.gsx.gov.uk).

e-Pact	Level 3, Clarendon House	Tel	+44 (0) 1865 207300
	52 Cornmarket Street	Fax	+44 (0) 1865 207301
	Oxford OX1 3HJ	Email	admin@opml.co.uk
	United Kingdom	Website	www.opml.co.uk

Acknowledgements

This publication would not have been possible without the collective efforts of a number of people who contributed their time, effort, and wisdom to this endeavour. In particular, we would like to thank:

- the families that gave their time to answer our survey questions and without whom this study would not have been possible, as well as the numerous emirs and community leaders who granted us access to their communities to carry out the research;
- the staff of Save the Children International and Action Against Hunger International for the consistent and invaluable support they have provided to our team since the start of the evaluation;
- the Oxford Policy Management Abuja survey team, led by Femi Adegoke. Special thanks to Ekundayo Arogundade, Eunice Atajiri, Joshua Moriyonu, Okechukwu Ezike, Tayo Ajala, Cynthia Nwodo, Ugochukwu Onuingbo, and Gloria Olisenekwu;
- Kay Sharp, Andrew Kardan, Ekundayo Arogundade, and Aly Visram, who provided valuable quality assurance inputs to these reports. We are grateful for their peer review inputs and feedback on the findings; and

This report benefited from external peer review inputs by the CDGP evaluation review group, which includes UK Department for International Development (DFID) staff, programme staff, and independent evaluation experts. The report was also reviewed by DFID's external Evaluation Quality Assurance and Learning Services (EQUALS), as well as the CDGP.

Executive summary

Overview of the Child Development Grant Programme

The Child Development Grant Programme (CDGP) is a six-year, DFID-funded pilot programme (2013–2019) that is being implemented in Zamfara and Jigawa states in northern Nigeria, and is now drawing to a close.[1] The programme's aim is to test an approach to reducing widespread poverty, hunger, and malnutrition in these states, which also affects the potential for children to survive and develop. The programme involves two components whose impact is being jointly tested: an unconditional cash transfer provided to pregnant women and women with children under two years (aimed at tackling the economic causes of inadequate dietary intake); and a counselling and social and behaviour change campaign (SBCC) (aimed at influencing maternal and childcare practices). The programme is implemented by Save the Children and Action Against Hunger in five local government areas (LGAs) across the two states: Anka and Tsafe in Zamfara State, and Buji, Gagarawa, and Kiri Kasama in Jigawa State.

The unconditional cash transfer component of the programme involves the provision of a monthly cash transfer to up to 90,000 pregnant women and women with children under the age of two years (selected during pregnancy) for a period of approximately 33 months, targeting the first 1,000 days of a child's life. The amount of the cash transfer was initially Nigerian Naira (NGN) 3,500 per month, and was increased to NGN 4,000 from January 2017. This predictable cash transfer is expected to contribute to increased food security and improved intake of more nutritious food, leading to improvement in child nutrition.

The counselling and SBCC component of the programme provides communities with education and advice about nutrition and health. This SBCC is intended to influence key areas of knowledge and practice, including breastfeeding and infant diets, and addresses both the women who are the direct beneficiaries of the cash transfer as well as men and influential members of the community. Two different designs of the SBCC component are being tested:

1. 'low-intensity' SBCC, delivered through posters, radio messaging, text messaging, health talks, and food demonstrations; and
2. 'high-intensity' SBCC, delivered through support groups and one-to-one counselling for women receiving the transfer, which is in addition to all components of the 'low-intensity' SBCC.

Background to the evaluation and overall design

The focus of the evaluation is to provide an understanding of the *impact* of the programme's components on the households and communities it supports. It does this by using a mix of different methods and interlinked workstreams to gather evidence about the programme's impact: an initial situation analysis, to provide contextual understanding for the programme; a quantitative impact evaluation and a qualitative impact evaluation, to understand the impact of the CDGP on key outcomes; and a process evaluation, to assess the effectiveness of the programme's implementation.

[1] Transfers and support to SBCC activities in CDGP communities are scheduled to end in April 2019. The programme began to roll out payments to non-CDGP communities in March 2019, after all endline evaluation activities had fully closed; it intends to provide transfers to these communities up to May 2019.

The evaluation tests a series of key hypotheses underpinning the programme's Theory of Change (ToC). The key ToC hypotheses are outlined in Box 1 below.

Box 1: Key evaluation hypotheses

Addressed primarily by the quantitative impact evaluation:

Evaluation Hypothesis I: The CDGP intervention, and in particular the provision of a regular monthly cash transfer to women, will result in the consumption of larger quantities, and more varied types, of food, which in turn will result in an increase in dietary intake and consequently a reduction in child malnutrition.

Evaluation Hypothesis II: The provision of a regular predictable cash transfer will result in a reduction in negative risk-coping behaviour and, in particular, a reduction in the distress sale of assets and debt accumulation among beneficiary households.

Evaluation Hypothesis III: The nutritional advice and counselling provided by the programme will improve the knowledge, attitudes, and practices (KAP) of the targeted men and women in relation to nutrition and general maternal and childcare practices.

Addressed primarily by the qualitative impact evaluation:

Evaluation Hypothesis IV: The cash transfer will result in improved material wellbeing and will contribute to the relational wellbeing of households through enhanced trust and reciprocal social and economic collaborations.

Evaluation Hypothesis V: The provision of a regular cash transfer to women will enhance their ability to make economic choices and will result in improved social capital.

Addressed primarily by the process evaluation:

Hypothesis VI: Poor implementation of the programme (i.e. poor targeting, irregular payments, inadequate information dissemination, and an inappropriate SBCC campaign) will reduce the potential impacts of the programme.

Source: Adapted from e-Pact (2014) *CDGP Evaluation Inception Report*, p. iv

Objectives of this report

This report presents the findings from the endline survey of the quantitative impact evaluation of the CDGP in northern Nigeria. The findings reported here come from information collected from a household and community survey between August and October 2018. The objective of the report is to present results regarding the impact of the CDGP, roughly four years after the start of implementation. It provides information on how the CDGP has been implemented in practice; how it has affected how households earn a living and obtain food; how it has affected their knowledge of healthy practices regarding pregnancy and care of newborn children and young children; how it has affected their views regarding fertility and the use of health facilities; and, finally, how it has affected the physical and mental development of their children. We summarise whether the findings from the endline survey confirm or disconfirm the evaluation hypotheses. We also consider how our results at endline compare with the midline evaluation, which took place roughly two years after the start of implementation.

Quantitative evaluation design and methodology

The quantitative impact evaluation is a cluster randomised controlled trial, in which communities have been randomly selected either to receive the CDGP interventions (treatment groups) or not to receive those interventions (control group). We estimate the impact of the interventions by comparing households in the communities where the programme interventions are applied with households in communities where they are not. Randomisation is considered the most rigorous way to measure the impact of the CDGP on beneficiary households because it should ensure that treatment and control groups have similar characteristics at the start of the evaluation. Thus, any differences observed at the end of the programme can be solely attributed to the impact of the programme's interventions[2].

The unit of randomisation is the village. Note that for the purposes of this report, we use the term community to refer to the village level. To implement the randomised design, we randomly chose which communities would be assigned to receive the CDGP interventions (the treatment groups) and which would be assigned to the control group. The control communities are located in the same LGAs as the CDGP treatment communities and thus are likely to be exposed to similar external factors (such as inflation, access to markets, availability of foodstuffs, availability of seasonal work, etc.). This means that when we compare average outcomes for households in CDGP communities with average outcomes for households in non-CDGP communities we can be confident that any differences observed are due to the CDGP interventions.

This evaluation has two treatment groups and one control group. The first treatment group (Treatment 1) has been offered the cash transfer and 'low-intensity' SBCC. The second treatment group (Treatment 2) has been offered the cash transfer and 'high-intensity' SBCC. The control group received no intervention for the duration of the evaluation, but is expected to receive a few months of intervention support in 2019.[3] The reason for having two separate treatment groups and one control group is to be able to measure the impact of the unconditional cash transfer and 'low-intensity' SBCC, as well as the additional impact of providing 'high-intensity' SBCC.

Baseline data were collected from households across both treatment and control groups from August to October 2014 and midline data were collected from the same households in October to November 2016.[4] The endline survey was conducted between August and October 2018, to coincide with the same timing as the baseline survey. The same households interviewed at baseline were interviewed again at endline, so the sample thus resembles a household panel.

In this report we present impacts on two main sub-samples of the survey respondents. Our main analysis sample consists of the households of women who were pregnant at the time of the baseline survey. This sample corresponds to households who were eligible to receive the CDGP interventions near to the start of the programme if they were resident in a CDGP community, when

[2] We conducted extensive balance tests using the survey baseline data to verify whether the randomisation did in fact lead to groups that had similar observable characteristics before the programme started. We found few imbalances between the characteristics of women and households in the CDGP and non-CDGP areas before the programme started, and not more than we would expect to occur by chance (Carneiro, Rasul, Moore, and Mason, 2015). This indicates that the randomisation was successful.

[3] Payments in non-CDGP communities began in March 2019 and payments are being made for three months, until May 2019. Each payment is worth Nigerian Naira (NGN) 8,000, meaning that over the three months, the total value of transfers paid is equivalent to six months' worth of the grant. Registration of beneficiaries in these communities was done after a listing exercise conducted by the CDGP across the communities, to identify eligible beneficiaries and confirm their residency status.

[4] In the quantitative midline evaluation, reported elsewhere, there was the potential for seasonal differences between the baseline and midline. However, there we compared CDGP communities with non-CDGP communities at midline only and thus any seasonal differences would not have affected our results. Data for both CDGP and non-CDGP communities were collected over the same period at midline.

it was first rolled out. Estimates of impact on this sample are found by comparing women who were pregnant at baseline residing in CDGP communities (and their households/husbands/children) with women who were pregnant at baseline residing in non-CDGP communities (and their households/husbands/children). The remainder of our sample is made up of households of women who were not pregnant at baseline, but were married and of reproductive age (aged between 12 and 49 at baseline), and so likely to become pregnant over the evaluation period. This sample thus includes households that may have become eligible for CDGP payments later in the programme's implementation, if they became pregnant after the baseline survey and were resident in a CDGP community. We also estimate programme impact separately for this sub-sample, although we exercise caution in our interpretation of the findings for this sub-group. This is due to a potential risk of bias affecting the impact estimates for this sub-group, if the presence of the interventions in CDGP communities affected the likelihood of women becoming pregnant there. We discuss this possibility in greater detail in Section 7.1. In addition to these two primary analysis samples, we also include sub-group analysis for some outcomes in our analysis (for example, considering gender, age, and other dimensions) at various points in the report.

Limitations

There are a number of limitations with our methodology that need to be kept in mind when interpreting the results reported here:

- **We are not able to estimate the additional impact of the high-intensity form of SBCC, in the manner in which it was intended to be delivered**. This is because we found that implementation of the high- and low-intensity forms of SBCC appear to have been very similar on the ground. For the majority of the results presented in this report, we therefore pool both versions of the intervention to form one 'treatment' group, against which our comparison group is compared. We do, however, examine differences in impacts between the two versions of the programme in a dedicated section, after the main results (see Annex D).
- **The impact estimates of the CDGP presented in this report are likely to represent an underestimation of the true impact of the CDGP.** This is due in part to imperfect coverage of women who were eligible to receive the intervention. In our main analysis sample, around 90% of women living in CDGP communities who reported being pregnant at baseline had ever actually received the grant by the time of the endline survey. Since our estimation strategy is based on comparing women who were pregnant at baseline between those in CDGP communities and those in non-CDGP communities, regardless of whether or not they actually received the grant, this may result in underestimation of the programme's impact. We also find that 11% of women in non-CDGP villages reported having received the cash grant at any time between the baseline and endline evaluation periods. A second source of possible underestimation is the possibility that some of the knowledge introduced by the CDGP could have 'spilled over' to women in non-CDGP communities.
- **The report evaluates an 'early' version of the programme.** Our main findings capture the impact of the CDGP for a cohort of households who were eligible to receive transfers very early on during its implementation period. As such, our results are not designed to capture the effects of changes in implementation dynamics over time. However, we do present some additional findings at endline, in Annex C of this report, which seek to shed light on whether there are differences in impact for households who received the transfers later on in CDGP's implementation period.
- **Our sample is not representative of the population in the CDGP communities.** This is because we only selected households where at least one woman was pregnant at baseline (or likely to become so during the study period), in order to focus on the target population for the

CDGP intervention. These households are therefore not representative of all households in the sampled communities. Secondly, our sampling strategy (detailed in Sections 5 and 6 of Volume II of this report) over-represents households residing in smaller villages. Given the lack of census data for these areas, we do not attempt to reconstruct weights to balance the analysis.

- **There is a risk of self-reporting bias for some outcomes,** which survey respondents may have an incentive to overstate or otherwise misreport. We mitigate against this by comparing findings to a range of different questions on the same topic, and cross-validating responses across subject areas, and sometimes between spouses.
- **The sample size at endline is significantly reduced compared to baseline due to attrition of 22% of the households surveyed at baseline.** This attrition has mostly been caused by security issues that prevented the survey teams from visiting 28 of the 210 communities in our evaluation sample. This might have reduced the statistical power of our analysis to detect effects. In theory this could also risk introducing bias into our results; however, we investigate this possibility in detail and our findings suggest that this is not likely to be an issue.

Findings

Implementation of the CDGP

At endline, awareness of the programme remains extremely high in CDGP communities, among both women and their husbands. This points to a widely recognised programme that has an established presence in the communities where it works. Uptake of payments is also high: around 90% of women who were pregnant during the baseline in CDGP communities ended up receiving cash from the programme. However, in non-CDGP communities, by endline we find that 11% of women pregnant at baseline ended up receiving payments from the CDGP. This could be due a number of factors, including relocation to CDGP communities and women residing in non-CDGP communities pretending to live in a CDGP community.

There is substantial variation in the stage of pregnancy at which payments start for different women in CDGP communities. Many women do not receive payments until late into their pregnancy or around the time of delivery. The programme has improved the efficiency of registration for people enrolled in later cohorts, but some delays are still evident. There is also variation in the timing of beneficiaries' exit from the programme in relation to the age of their child. On average this happens when the child is 24 months, as intended by the programme's design, but some beneficiaries appear to remain in the programme for longer than this.

Turning to the SBCC component, we find that there is similarity in respondents' self-reported access to different SBCC channels between those residing in communities allocated to receive the 'high-' and 'low'-intensity versions of the programme. Although both men and women are more likely to report having been exposed to a high-intensity channel if they live in a high-intensity SBCC community, these differences are not stark. As a result, most of our evaluation findings pool the evidence from high- and low-intensity SBCC CDGP communities. There are differences between men and women in regard to the SBCC channels that they have access to. For women, the channels most frequently reported are posters, followed by food demonstrations. For their husbands, the most frequent channels reported for information dissemination are the radio and posters.

Impact of the CDGP on household income and livelihoods

At endline, the CDGP has increased the likelihood that women are engaged in work activities, and has stimulated investment in business activities undertaken by women, with significant positive impacts observed on revenues from women's businesses and their business expenditures. For their husbands, there has been no impact on the likelihood of being engaged in work activities or their income from work. This reflects the fact that almost all men are already working. Despite the increases in women's livelihoods activities, there is no impact on the combined income of husbands and wives at endline. This reflects the fact that women's incomes are small in relation to men's.

The CDGP has had a positive impact on the proportion of households who own livestock, as well as the volume of livestock purchases and sales in the last 12 months. These impacts have increased in magnitude since midline. This may indicate that investment in larger assets like livestock becomes more feasible for households after the accumulation of successive cash transfers, and after their more immediate needs have been secured. The programme has also had an impact on the proportion of women owning any animals themselves. In times of land cultivation, CDGP has a small impact on the proportion of women that cultivate land; however, this remains very uncommon for women in this setting. There is no impact for men, almost all of whom cultivate land anyway.

The programme has significantly reduced the proportion of households borrowing money, as well as the amounts borrowed. It has also increased the proportion of households with savings, as well as the total value of savings (including both cash and in-kind savings). At endline, these impacts are greater than those that were observed at midline.

Impact of the CDGP on KAP about maternal health and infant and young child feeding (IYCF) practices

The CDGP has led to dramatic shifts in the reported knowledge and beliefs of both women and their husbands in a wide range of indicators related to maternal and child health and nutrition. This closely echoes the findings we reported at midline, and indicates that the substantial impact of CDGP previously reported in improving knowledge is sustained even once the cash transfers end. However, we also note that there has been a generalised improvement in knowledge indicators since the midline period in non-CDGP communities too. This may reflect some 'spillover' of knowledge generated through CDGP SBCC activities also reaching households in non-CDGP communities. If this is the case, then the large impacts we document here may even be underestimates of the true impact of the programme.

These changes in beliefs have also translated into significant impacts on self-reported practices. There are significant impacts due to the CDGP in the uptake of antenatal care (ANC), as well as in the proportion of births occurring in a health facility and attended by skilled health personnel. Importantly, these impacts are even larger for younger children, which again suggests that some of the positive health behaviours the CDGP has sought to promote are carried over for subsequent children in the household. The CDGP has also had a strong impact on the uptake of positive IYCF practices, including the adoption of exclusive breastfeeding and improved dietary diversity of infants aged over 23 months.

Impact of the CDGP on household demographics, poverty, expenditure, food security, and sanitation

The age profile of households in our evaluation sample is symptomatic of a young and growing population, where fertility rates as a whole are high. We examine whether the CDGP has had an unintended influence on increasing average fertility, which might be the case if households were incentivised to have pregnancies that they might not otherwise have had in order to receive the grant. However, we do not find evidence of increased fertility as a result of CDGP.

In terms of household expenditure, we find a large impact of the CDGP on household expenditure that has persisted from midline to endline. This is in spite of the fact that many of our sample of households with women who were initially pregnant at baseline are by now no longer currently receiving the cash. The CDGP has also had an impact on the proportion of expenditure spent on food.

The programme has also positively impacted household food availability across all seasons. As at midline, at endline we find that these impacts are larger in the seasons when hunger is more prevalent. We also find an impact on households' ability to access improved water and toilet sources.

Impact of the CDGP on women's nutritional status and wellbeing

On the whole, there is little evidence of any effect of the CDGP on women's nutritional status, as measured by height, weight, body mass index (BMI) and mid–upper arm circumference (MUAC). We do find a surprising result: that women in CDGP communities appear more likely to have BMI measures outside the normal range, and to be classified as 'thin' on this basis. We are not able to fully explain this finding. We do note, though, that this negative impact is relatively small in size, and only weakly statistically significant[5], so we would exercise some caution in emphasising this result.

Impact of the CDGP on child health and development

Considering the sample of 'midline' children first (which includes children who would have been directly exposed to the CDGP), at endline we find a continuation of many of the impacts first observed at midline. As before, we see that the CDGP has led to investments in child health that go above and beyond nutrition. This includes an impact on the uptake of vaccinations, as well as on a range of other positive health indicators, such as a reduction in the incidence of diarrhoea, the proportion of children who have recently suffered an illness or injury, and the proportion of children given deworming medication in the last six months. We also find a positive impact on the proportion of children aged four to eight who are currently attending school, of around 6 percentage points. Finally, for these children, we find that the CDGP has successfully had an impact on reducing the proportion who are stunted. This is an important result as this relates to the high-level objectives of the CDGP. It also means that the impact on reduced stunting that we first observed for this sample of children at the time of the midline have been sustained through to the endline.

Turning to the sample of 'endline' children, who are generally the younger siblings of those directly exposed to the CDGP after the baseline, at endline we find similarly positive impacts on the uptake

[5] Here, by 'weakly' statistically significant, we mean that the result is only significant at the 10% level but not the 5% level.

of vaccinations and other positive health outcomes as we do for their older siblings. However, we do not detect any impacts in anthropometric outcomes for this sub-sample, in either stunting, wasting, or underweight measures. This suggests that the impacts of CDGP on anthropometric outcomes are concentrated on children who are directly exposed to the cash.

We find no impact of the CDGP on other measures of child development, as measured by the Ages and Stages Questionnaire® (ASQ) measure of gross motor skills, communication, and personal-social skills.

Testing the key evaluation hypotheses

The endline evaluation seeks to test three key evaluation hypotheses. We now summarise our results in relation to these hypotheses below.

Evaluation Hypothesis I: *The CDGP intervention, and in particular the provision of a regular transfer of NGN 3,500[6] on a monthly basis to women, will result in the consumption of larger quantities, and more varied types, of food, resulting in an increase in dietary intake and consequently a reduction in child malnutrition.*

Endline finding: The CDGP has had a considerable impact on improving the dietary diversity of children aged over six months. It has also had an impact on household food expenditure, and led to a reduction in households experiencing food shortages during different seasons of the year. The fact that these impacts are observed in the endline period indicates that the effects of the CDGP on household food consumption have persisted long after much of our sample has stopped actually receiving transfers. We also observe positive impacts on other measures of child health, including a reduction in how regularly children are reported to suffer from an illness or injury. Among children of an age range to be directly exposed to transfers, the CDGP has successfully led to a reduction in the rate of stunting. There is no impact on their likelihood of being wasted or underweight, although the proportion who are reported to be wasted is very low to begin with. For younger siblings of children exposed to transfers, the CDGP also leads to an impact on the adoption of positive IYCF practices and health behaviours, but no change in their anthropometric measurements.

Evaluation Hypothesis II: *The provision of a regular predictable cash transfer will result in a reduction in negative risk-coping behaviour and, in particular, a reduction in the distress sale of assets and debt accumulation among beneficiary households.*

Endline finding: The CDGP has enabled households to invest in livestock, increase their savings, and reduce reliance on borrowing. These are all important dimensions connected with building household resilience to external shocks, and we find that there is a significant reduction in the prevalence of food insecurity throughout all seasons of the year. At the same time, we find that when shocks do occur (focusing in particular on times during the year when households say they did not have enough food), CDGP households are less likely to rely on external assistance from family or friends, to have to borrow money, or to have to sell assets, to cope. For women, we find that the transfer leads to an increase in participation in work activities such as petty trading.

Evaluation Hypothesis III: *Through nutritional advice and counselling the programme will improve the KAP of the targeted men and women in relation to nutrition and general maternal and childcare practices.*

[6] Adjusted to NGN 4,000 in January 2017.

Endline finding: The evaluation documents large impacts for both women and their husbands, across a wide range of knowledge indicators that are linked to the key messages of the CDGP SBCC strategy. This represents a considerable achievement for the programme. This finding has persisted from our midline results through to this longer endline follow-up, and is consistent with the results of the qualitative studies too. Moreover, these changes in caregiver knowledge have also translated into improved practices. The CDGP has had an impact on increased uptake of ANC among pregnant women, and the proportion of deliveries that occur at a health facility, as well as on the adoption of exclusive breastfeeding for children aged under six months and dietary diversity of children aged over six months. At endline, as at midline, we continue to find evidence that investments in child health caused by the CDGP extend beyond nutrition: the programme has had a positive impact on the uptake of vaccinations and deworming medication in young children. These impacts arise not only for children of the age range to be directly exposed to the programme intervention, but their older and younger siblings too. This reflects the positive spillover effects of the CDGP beyond those on targeted children.

Lessons about the CDGP and its impact

1. **At endline, the CDGP is continuing to reach an extremely vulnerable population, facing a number of challenges that affect the potential of children to thrive and develop.**

2. **Coverage of the cash component of CDGP has been high overall, despite some initial teething problems in its roll-out.**

3. **Women retain control over the CDGP, and the majority of the cash is spent on food for the household or food for children.**

4. **The programme successfully implemented a complex intervention in a challenging operational context, achieving wide coverage. It faced some difficulties in being able to enrol and exit all beneficiaries from cash transfers at the intended time.** It has been difficult for the CDGP to reliably enrol beneficiaries early in their pregnancy, as intended by the programme's design, though it has made some improvements in the efficiency of its registration processes. We also find some evidence of variation in the timing of exit. This may reflect the fact that the CDGP has struggled to maintain an up-to-date registry of the birthdays of all children for whom transfers are paid. This is related to the difficulties of operating a context where formal registration of births is very low and it is common for households to be unsure of the date of birth of children.

5. **There do not appear to have been substantial differences in implementation of the two versions of the CDGP intervention that this evaluation sought to test.** In practice, the two SBCC components appear to have been experienced fairly similarly by respondents.

6. **The CDGP has been extremely effective in promoting improvements in caregiver knowledge of beneficial child health and nutrition practices.** This report has documented some remarkable impacts of the CDGP in improving knowledge and beliefs, across a wide range of domains that span the range of messages provided through CDGP's SBCC campaign.

7. **The CDGP has impacts on household's economic wellbeing that persist after transfers themselves end.** The CDGP has had an impact on some economic factors that have continued, and in some cases increased in magnitude, since midline, even after most

of our analysis sample have exited the programme. These findings provide some encouragement that some positive impacts on household livelihoods and resilience to shocks may continue in the longer term.

8. **The impact of the CDGP in promoting positive practices for healthy child feeding is sustained for new children born in the household.** The CDGP has a positive impact on health and nutrition practices adopted for new children born in the household, after the original, older child that transfers were received for.

9. **The positive impact of the CDGP on child anthropometric outcomes and dietary diversity is not different for boys and girls.**

   We find that the impacts of the programme on reducing the prevalence of stunting and increasing dietary diversity for children aged over 23 months are experienced similarly by boys and girls. This is consistent with additional evidence presented in this report, which shows that women and their husbands hold similar beliefs about the value of adopting positive nutritional practices for child development across boy and girl children. Thus our findings do not suggest that the benefits of the CDGP accrue differently for boys and girls.

10. **The CDGP has led to a reduction in the proportion of children who are stunted. Direct exposure to transfers during the first 1,000 days of life is important for achieving this impact, which is not observed for the younger siblings of CDGP-exposed children.**

11. **The rate of malnutrition in this setting remains a serious problem in this population. Although it has had some notable positive results, CDGP is not able to bring about the changes needed to address this situation in isolation.**

Recommendations for the programme implementers

1. **Providing SBCC through multiple channels is effective, because men and women access messages from different channels.**

2. **Sustained engagement of trained volunteers within communities can help to strengthen the visibility and impact of SBCC messages.** The implementation model of the CDGP relies on a large network of trained volunteers, who have a consistent presence within the communities where the programme operates. This intensive form of intervention has been effective in promoting uptake of the SBCC messages, with CVs found to be widely known within CDGP communities. The qualitative evaluation also found that a key factor supporting beneficiaries to take up new practices was the ‘demonstration effect’ of seeing others in the community adopting these behaviours too. Thus the role of CVs not only in sharing information, but also visibly demonstrating new practices themselves appears to have been key to the effectiveness of the SBCC component. However, for future programmes, the benefits of implementing an intervention with this degree of intensity may need to be considered against the resources required to do so.

3. **In terms of programme targeting, there may be a trade-off between seeking to implement a targeting process that meets what is considered to be international best practice, and the feasibility of implementing this in practice.** The CDGP has faced challenges in targeting cash transfers to coincide with the ‘first 1,000 days’ of a child’s life. There is a well-established literature underlining the importance of investments during this period to promote healthy child development. However, targeting of cash transfers to last

until the child turns two years old requires information on children's birthdays, which has proved difficult for the CDGP to maintain in a context where children's birth dates are often unknown. For the CDGP, it would have been operationally simpler to implement a targeting approach that adhered to the spirit, if not the letter, of targeting the 'first 1,000 days'. This could have been done by administering a fixed number of payments to beneficiaries, with the number of payments calculated last on average until the child turns two years old. For other programmes with similar objectives to the CDGP, it may therefore be worthwhile to consider the trade-offs that exist between a targeting approach that meets international best practice, versus one that is more logistically feasible in the implementation setting.

4. **Delivering SBCC through a 'low-intensity' strategy may be sufficient to attain impacts in improved knowledge and beliefs.** The evaluation demonstrates striking impacts of the CDGP in shifting knowledge and beliefs among women and men about healthy child nutrition practices. However, our findings show that respondents appear to experience the two types of treatment intensity similarly, and we also find few differences in actual recorded impacts between the two types of community. This suggests that implementing the 'low-intensity' version of the programme may be sufficient to achieve these impacts, with lower additional value of the high-intensity component.

Recommendations for the development partners and funders

1. **Given how difficult it is to achieve impacts on height-for-age, care should be taken when stunting is included as a high-level indicator on logframes to ensure that the indicator is used and interpreted appropriately.** Alleviating stunting among young children was among the high-level objectives of the CDGP, as articulated in its logframe. This indicator is notoriously difficult indicator to shift, and the magnitude of the results on stunting that we can expect from a programme like the CDGP need to be considered in relation to the characteristics of this indicator itself. It is for example notable that despite positive evidence of improved dietary practices and health outcomes for younger siblings of children who were part of the first cohort of those exposed to the CDGP, this is not reflected in any change in stunting for this group (only for their older siblings). This is not a surprise, but what is indicates is that there can be gains in health and nutrition that the stunting indicator is not able to capture. There may consequently be a case for broadening the toolbox of indicators used to measure high-level impacts on child nutrition and development.

Recommendations for government partners

1. **Targeting social protection instruments based on categorical criteria linked to beneficiaries' the stage of life can have high returns in terms of impact. This should be considered when deciding on the optimum targeting approach for future social assistance programmes.** By targeting the vulnerabilities faced by children during the first 1,000 days of their lives, the CDGP took an approach to social protection that is sometimes known as a 'life-cycle' approach. This means that it was based on the premise that individuals and households face different risks and vulnerabilities at different stages during their lives, and interventions were targeted to address needs during a particular time window. The Federal Government faces a decision over whether to apply a similar targeting approach to future social assistance programmes. An alternative to the approach adopted

by CDGP would be to adopt a household poverty-targeted approach[7], in which beneficiaries are included on the basis of their estimated poverty status rather than their stage of life. For future programmes with similar objectives to the CDGP, the results of this evaluation suggest that the 'life-cycle' approach taken by the CDGP can be highly effective in achieving strong impacts. This evidence should be considered in future programming decisions when determining the relative benefits of different targeting approaches.

[7] Means testing can also be applied under the life-cycle approach if resources are limited, however administrative burden of such elements need to be balanced against the political exigencies of doing so.

Table of contents

List of tables, figures, and boxes

List of abbreviations

ANC	Antenatal care
ASQ	Ages and Stages Questionnaire
BMI	Body mass index
CDGP	Child Development Grant Programme
CHEW	Community health extension worker
CV	Community volunteer
DFID	UK Department for International Development
FAO	United Nations Food and Agriculture Organization
HAZ	Height-for-age Z-score
HHS	Household Hunger Scale
IDDS	Individual Dietary Diversity Score
ITT	Intention to treat
IYCF	Infant and young child feeding
KAP	Knowledge, attitudes, and practices
LATE	Local average treatment effect
LGA	Local Government Area
MDD	Minimum dietary diversity
MUAC	Mid–upper arm circumference
NASSP	National Social Safety Nets Project
NGN	Nigerian Naira
OLS	Ordinary least squares
OPM	Oxford Policy Management
ORS	Oral rehydration solution
PPI	Progress out of Poverty Index
PPP	Purchasing power parity
SBCC	Social and behaviour change campaign
SD	Standard deviation
SE	Standard error

ToC	Theory of Change
ToT	Treatment on the treated
WAZ	Weight-for-age Z-score
WHO	World Health Organization
WHZ	Weight-for-height Z-score
2SLS	Two-stage least squares

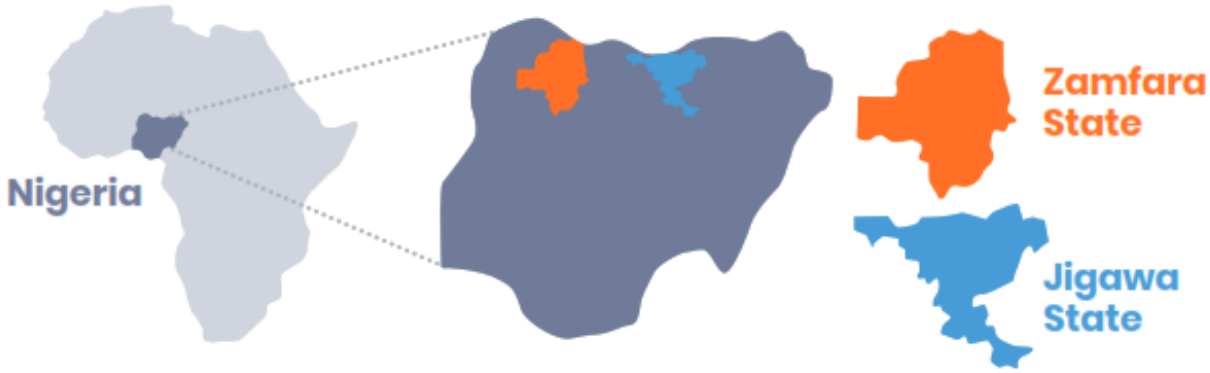
Part A: Background and method

1 Introduction

1.1 Overview of the CDGP

The CDGP is a six-year, DFID-funded pilot programme (2013–2019) that is being implemented in Zamfara and Jigawa states in northern Nigeria, and is now drawing to a close.[8] The programme's aim is to test an approach to reducing widespread poverty, hunger, and malnutrition, which affect the potential for children to survive and develop. The programme offers an unconditional cash transfer (aimed at tackling the economic causes of inadequate dietary intake) and a counselling and behaviour change campaign (SBCC) (aimed at influencing maternal and childcare practices). The programme is implemented by Save the Children and Action Against Hunger in five LGAs: Anka and Tsafe in Zamfara State, and Buji, Gagarawa, and Kiri Kasama in Jigawa State (see Figure 1).

Figure 1: Location of the CDGP states



Source: e-Pact (2016) CDGP Midline Evaluation Summary Report

The programme provides a cash transfer for up to 90,000 pregnant women and women with children under the age of two years (selected during pregnancy) for a period of approximately 33 months, targeting the first 1,000 days of a child's life.[9] The amount of the cash transfer was initially NGN 3,500 per month, and increased to NGN 4,000 from January 2017. NGN 3,500 represented roughly 20 U.S Dollars in 2014, when the programme began[10]. This predictable cash transfer is expected to contribute to increased food security and improved intake of more nutritious food, leading to an improvement in child nutrition.

[8] Transfers and support to SBCC activities in CDGP communities are scheduled to end in April 2019. The programme began to roll out payments to non-CDGP communities in March 2019, after all endline evaluation activities had fully closed; it intends to provide transfers to these communities up to May 2019.
[9] The targeting of the CDGP toward the first 1,000 days of life is in line with an established literature around the effectiveness of investments in child health and nutrition within this time period.
[10] 3,500 NGN is worth 21.6 US Dollars at the PPP exchange rate observed on August 15th 2014, which is the time of the inception of the programme. This was worth around 17% of the value of total monthly household consumption expenditure as estimated at baseline and more than 100% of the value of women's earnings at baseline (Carneiro, Rasul, Moore, and Mason, 2015). The CDGP conducted a 'Cost of Diet' study in 2015 to assess the availability and costs of a nutritious diet among livelihood zones within the CDGP LGAs. The study found that the CDGP transfer amount of NGN 3,500 accounted for between 75% - 105% of the cost of a nutritious diet for one pregnant woman and a child aged from 6 – 23 months (depending on the livelihood zone in question) (Save the Children International, November 2015).

Alongside the cash transfer, communities in the programme are provided with education and advice about nutrition and health, through an SBCC component. This campaign is intended to influence key areas of knowledge and practice, including breastfeeding and infant diets, and is designed to address men and influential members of the community, as well as the women who are the direct beneficiaries of the cash transfer.

The programme is set up to test two different designs of the SBCC component:

1. 'low-intensity' SBCC delivered through posters, radio messaging, text messaging, health talks, and food demonstrations; and
2. 'high-intensity' SBCC delivered through support groups and one-to-one counselling for women receiving the transfer, in addition to all components of the 'low-intensity' SBCC.

The combination of the cash transfer and SBCC component are designed to achieve improvements in child and maternal nutrition, IYCF practices and household food security. Specifically, the high level impacts that the programme has sought to achieve include bringing about a reduction in the prevalence of stunting among children aged under-5, reducing the propensity of households to engage in negative coping strategies, such as selling productive assets, during periods of food shortage, increasing the dietary diversity of children and increasing the proportion of children aged under 6 months who are fed with breastmilk only.

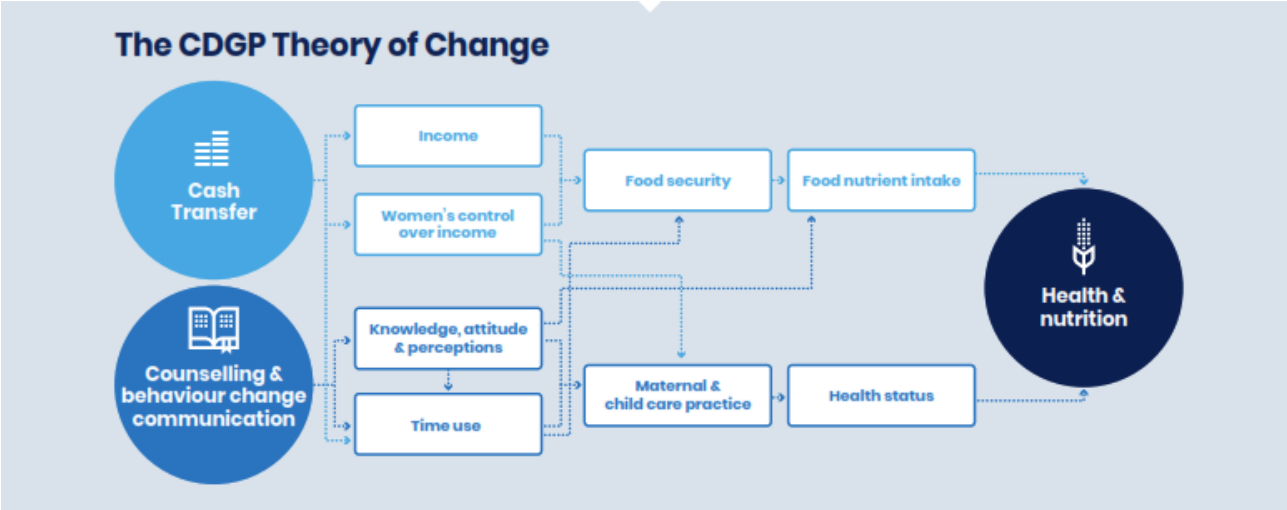
1.2 Programme ToC

The CDGP ToC, which was developed by the evaluation team in consultation with the programme implementers, is summarised in Figure 2. The purpose of the ToC is to summarise *how* the programme interventions are expected to achieve the outcomes of improved child nutrition and maternal health. Between the interventions (on the left-hand side of the diagram) and the outcome (on the far-right), there are a number of expected intermediate effects and connections ('transmission mechanisms'):

- The *monthly cash transfer* is expected to increase beneficiary households' income and women's control over the use of income (for example, for food purchase). Indirectly, it is also expected to have an impact on men's and women's time use, and on their responses to seasonal risks and stresses. These effects, in turn, are expected to result in increased food security, and an increase in the quantity and quality of food consumed. In the longer term, it is also expected that this component could help drive labour market opportunities.

- The *counselling and SBCC* are expected to influence women's and men's knowledge, attitudes, perceptions, and time use, resulting in improved maternal and childcare practices, and ultimately improved health and nutrition of women and children.

Figure 2: CDGP ToC



Source: e-Pact (2016) CDGP Midline Evaluation Summary Report

1.3 Context

In this sub-section we provide a brief overview of the setting for the intervention. An in-depth description of the context for the CDGP can be found in the Situation Analysis report, undertaken at the start of this evaluation (Leavy, *et al*., 2014). The CDGP is implemented in a rural setting, with the dominant forms of livelihood centred on agriculture and livestock rearing. Households are primarily of Hausa ethnicity[11] and Muslim religion, and organised around a male household head. There are prevailing gender norms that affect the roles typically held by men and women within the household. Women are generally responsible for caring for children and domestic activities in the home. They may be restricted in their movements outside the household, with many women either confined to their homes or unable to go outside without permission from their husband; though the degree of seclusion varies between communities. While men have primary responsibility for tending to crops and larger livestock, women may also contribute to household livelihoods, mainly through petty trading activities or looking after smaller livestock (such as chickens) that are kept at home.

Rates of poverty and deprivation are high across the CDGP LGAs. The quantitative baseline report found that 84% of households had incomes below the global poverty line for household income (US $1.25 per day at the time of the report) (Carneiro, Rasul, Moore, and Mason, 2015). This points to low levels of economic security. Low income levels are compounded by frequent income shocks, such as climate-related shocks and insecurity, which can negatively affect household's ability to attain their basic needs. The experience of shocks and coping strategies adopted when shocks do arise are discussed in this report.

High levels of poverty, coupled with gaps in health service provision have contributed to an extremely adverse undernutrition situation. According to the 2018 Nigerian Demographic and Health Survey (NDHS) indicators, 37% of children under 5 years of age are stunted in Nigeria. Outcomes in the northern states are especially adverse, rising to 68% of children reported to be stunted in Jigawa, and 55% in Zamfara[12]. The NDHS also point to extremely low levels of access to healthcare, with 12% of births in Jigawa and 12% in Zamfara reported to have been

[11] The CDGP LGAs also contain a minority of Fulani households, as well as members of other ethnic groups including Nupe, Tiv and Kanuri households (Leavy, *et al*., 2014).
[12] See NDHS 2018 Key Indicators Report: https://dhsprogram.com/pubs/pdf/PR118/PR118.pdf

accompanied by a skilled provider. The severity of this health and poverty situation, together with the significant adverse consequences of undernutrition early in life (Almond and Currie, 2011), form the backdrop for this intervention, and are important to recognise in contextualising the evaluation's results.

1.4 Background to the evaluation and overall design

As agreed with DFID, and set out in the evaluation's inception report, the focus of the evaluation is to provide an understanding of the *impact* of the programme on the households and communities it supports. The primary purpose of the evaluation is therefore to generate learning and evidence to support decisions regarding the uptake of the pilot programme[13].

The overall evaluation draws on a number of different methods (mixed methods) and interlinked workstreams for gathering evidence about the impact of the CDGP, including the following:

1. An initial **situation analysis**, which provided us with a strong contextual understanding of the poverty situation and the social and cultural dynamics within which households and communities in the two selected states operate. This study also identified other issues that we needed to consider and include in other parts of the evaluation.
2. A **quantitative impact evaluation**, comprising a survey before the programme had started (baseline), a midline survey, and one toward the end (endline), in order to determine the effect of the programme on key impact and outcome indicators that measure child nutrition, as well as the knowledge, attitudes, and wellbeing of those reached by the programme.
3. A **process evaluation** that: i) looks at how the programme was implemented after one year and identifies the factors that support or weaken implementation of the CDGP and its potential impact; and ii) explores, toward the end of the programme, why it has or has not succeeded in achieving its outcomes.
4. A **qualitative impact evaluation** that follows a small group of households receiving the programme through three rounds of data collection (baseline, midline, and endline) and explores, through individual discussions, their views about the programme and its impact on issues that are more difficult to capture in a household survey. This is combined with a series of group discussions with other community members to deepen understanding of the impact of the programme and whether it has led to changes in attitudes or behaviour.

The evaluation has been designed to test a series of key hypotheses underpinning the programme's ToC. The key ToC hypotheses are outlined in Box 2 below[14]. **The quantitative impact evaluation component aims to provide direct answers to Evaluation Hypotheses I–III, and supporting evidence for Evaluation Hypotheses IV– VI.**

[13] Note that during the midline phase of the evaluation, DFID's focus shifted from supporting state-level actors and advocacy for the scale-up of the pilot, towards engagement with the federal-level actors in support of federal-level programme and policies.
[14] In Table 1 of Volume II of this report we show the detailed set of evaluation questions that the different workstreams have been designed to answer.

Box 2: Key evaluation hypotheses

Addressed primarily by the quantitative impact evaluation:

Evaluation Hypothesis I: The CDGP intervention, and in particular the provision of a regular monthly cash transfer to women, will result in the consumption of larger quantities, and more varied types, of food, which in turn will result in an increase in dietary intake and consequently a reduction in child malnutrition.

Evaluation Hypothesis II: The provision of a regular predictable cash transfer will result in a reduction in negative risk-coping behaviour and, in particular, a reduction in the distress sale of assets and debt accumulation among beneficiary households.

Evaluation Hypothesis III: Through nutritional advice and counselling the programme will improve the KAP of the targeted men and women in relation to nutrition and general maternal and childcare practices.

Addressed primarily by the qualitative impact evaluation:

Evaluation Hypothesis IV: The cash transfer will result in improved material wellbeing and will contribute to the relational wellbeing of households through enhanced trust and reciprocal social and economic collaborations.

Evaluation Hypothesis V: The provision of a regular cash transfer to women will enhance their ability to make economic choices and will result in improved social capital.

Addressed primarily by the process evaluation:

Hypothesis VI: Poor implementation of the programme (i.e. poor targeting, irregular payments, inadequate information dissemination, and an inappropriate SBCC campaign) will mitigate the potential impacts of the programme.

Source: Adapted from e-Pact (2014) *CDGP Evaluation Inception Report*, p. iv

The different workstreams have been designed to inform each other's design and analysis through a sequenced and iterative process. During the design phase of the evaluation, prior to the start of the intervention, the qualitative situation analysis informed the design of the CDGP's interventions, as well as the design of the baseline qualitative and quantitative evaluations. These baseline reports in turn informed the design and focus of the process evaluation. The workstreams have continued to inform each other's design at midline and endline, too. At the midline stage, the qualitative team provided inputs into the quantitative midline by reviewing its data collection instruments, and proposed a number of questions to be incorporated. The quantitative midline results then informed the design and focus of the qualitative and process evaluation endline studies, to deepen the analysis and help to follow-up on emerging hypotheses.

Significant triangulation of results between the different workstreams has also helped to deepen the quality of inference throughout the evaluation period. At baseline, the qualitative household case studies drew on some analysis of the baseline quantitative data to supplement the analysis. At both midline and endline, the findings of the qualitative and process evaluations have also fed into the interpretation of the quantitative results. This process has been facilitated through ongoing discussion and review of outputs between teams. We have also held internal workshops at both the midline and endline stages to bring the leads of all workstreams together and facilitate discussion of all the findings together. These workshops have provided an opportunity for each

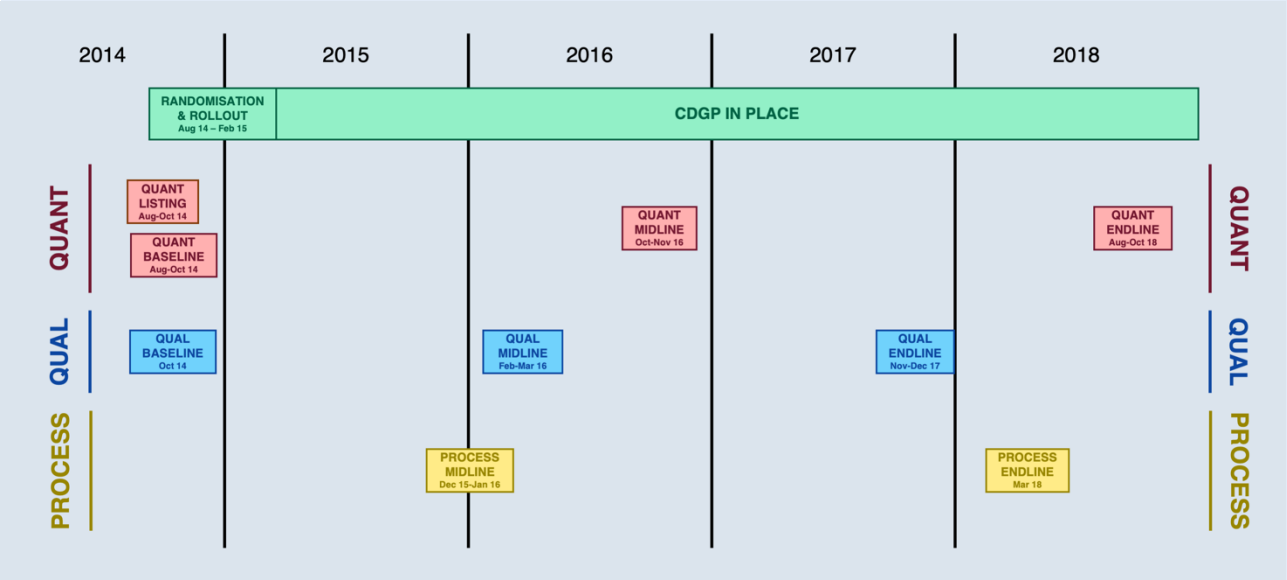
workstream to share their respective findings and discuss how the findings compare[15]. The timing of workshops has coincided with the analysis period of the quantitative midline and endline reports, enabling the analysis and interpretation of the quantitative results to benefit from the input and discussion of the other workstreams.

The evaluation team has also worked closely with other stakeholders, including the CDGP, throughout the implementation of the evaluation. During the design phase, a joint workshop was held between the CDGP, DFID and e-Pact, to discuss the key design features of the intervention. Extensive engagement between e-Pact and the CDGP also took place prior to this event, including a series of bilateral meetings in Nigeria, where various design elements were discussed and agreed. At each stage of the evaluation, our questionnaires have been shared with the CDGP for comment, as well as DFID, and their feedback incorporated. We have also discussed preliminary results with CDGP at each stage and sought their feedback through validation workshops. At endline, we have held two validation meetings to present the results of this report with the CDGP and seek feedback: the first with the central Abuja-based team, and another presentation in a wider meeting that involved state team representatives. The CDGP has also provided comments on all evaluation reports prior to submission, to which we have responded.

Following the submission of this endline report, an integrated summary report will be developed, drawing on the findings from the endline qualitative and quantitative reports, as well as the process evaluation results. A similar output was also produced at midline, to present the consolidated and summarised findings from all workstreams.

The timeline of the evaluation is shown in Figure 3.

Figure 3: Timeline of the CDGP evaluation



[15] No significant disagreements between the evaluation team have occurred during the conduct of this evaluation. Opportunities for triangulation and discussion between the evaluation team have provided a chance to collaboratively reflect on the findings in order to strengthen the quality of inference.

1.5 Objectives of this report

The current report presents the findings from the endline survey of the quantitative impact evaluation of the CDGP. It is based on information collected via household and community surveys between August and October 2018.

The objective of the report is to present results showing the effect of the CDGP after around four years of implementation. It provides information on how the CDGP has been implemented in practice and how it has affected how households earn a living and obtain food; their knowledge of health practices relating to pregnancy or taking care of infants; views regarding fertility, marriage, and use of health facilities; and, finally, the physical and mental development of their children.

1.6 Intended audience

While the report contains a considerable amount of technical detail, every effort has been made to ensure it is accessible to the non-technical reader. A shorter and simpler report summarising the quantitative and qualitative endline findings will also be made available later in 2019. The intended audiences for these outputs fall into three categories.

The first audience group for this report is the funders and implementers of the CDGP, and other nutrition-sensitive interventions in Nigeria and globally. The CDGP combines a number of features that make it a key example from which future nutrition programmes targeting similar objectives can learn. The combination of a targeted cash transfer component together with an integrated SBCC package is relatively uncommon, particularly at the scale at which CDGP has operated, and within a complex operating environment. Lessons about the results of this intervention, four years after the start of implementation, are expected to usefully inform the design of future programmes.

The second category of users includes civil society, the research community in Nigeria (and indeed globally), and the donor community. The endline evaluation results provide a rich source of information and updated findings on a number of key nutrition, health, and welfare indicators for a large sample of households in northern Nigeria.

Finally, the third category of users include federal, state, and local governments. The policy context for social protection and nutrition programming in Nigeria has evolved considerably over the course of this evaluation, providing new and important avenues for the findings from the CDGP's experience to influence public policy discourses. Among these changes has been progress in the development and implementation of a federal-level social protection policy, National Social Safety Nets Project (NASSP). The NASSP is part of the government's flagship social protection policy, implemented by the National Cash Transfer Office within the Office of the Vice President. Implementation of the NASSP began in 2017 and it is still being scaled up. The NASSP pays bi-monthly cash transfers to poor households, identified through a National Social Registry. Participating states also sign up to co-responsibilities, as a condition of eligibility, which include nutrition-sensitive elements. In the ongoing development of this social protection agenda, the experiences from the six years of the CDGP's implementation provide a crucial base of knowledge for informing the design and implementation model of the NASSP, from its central teams at federal level through to operations on the ground.

Findings from the main report and the condensed report will be presented in a learning event, which will take place during mid-2019 in Abuja with representatives from all the end-user groups identified above and based on discussions with DFID and the CDGP.

1.7 Structure of this report

This report is divided into two volumes. This is Volume I, which contains the key endline findings. Volume I is made up of 10 sections, which are organised into three parts:

Part A outlines the evaluation design, and provides a guide for how to read the figures and tables in the report. This first part is comprised of the following sections:

- Section 1 provides an introduction to the CDGP and the evaluation.
- Section 2 describes the programme ToC, the overall evaluation hypotheses and questions, and a short summary of the overall design and methodology of this evaluation. Further details on these aspects can also be found in Volume II.

Part B describes our findings and analysis. The presentation of our main findings is structured to follow the logic of the ToC, starting with a description of the context and programme implementation, and ending with the results on the final intended impacts of the programme. This part is comprised of the following sections:

- Section 3 describes the key characteristics of the communities and households interviewed as part of the endline survey for the CDGP.
- Section 4 describes our findings on how the cash and SBCC components have been implemented, and how the cash has been used.
- Section 5 describes how the CDGP has impacted the livelihoods of women in the sample households, and their husbands. This includes animal rearing, land cultivation, and other work activities, as well as borrowing, lending, and savings.
- Section 6 describes the impact of the CDGP on KAP regarding maternal health and IYCF practices, with a particular focus on the areas that the CDGP aims to influence.
- Section 7 describes the impact of the CDGP on household demographics (including on fertility), and on household poverty, expenditure, food security, and sanitation.
- Section 8 looks at how the CDGP has impacted women's nutritional status and wellbeing.
- Section 9 assesses the impact of the CDGP on child health and development, including the nutritional status of children, which is measured using four primary indicators: weight-for-height, height-for-age, weight-for-age, and MUAC.

Part C (Section 10) presents our conclusions, drawing out key implications for the implementation and design of the CDGP and future programmes.

There are four annexes in this report:

- Annex A contains a guide to the types of figures and tables presented in this report.
- Annex B presents the results of a robustness check of our main impact estimation.
- Annex C contains impact results over a set of key indicators for a second analysis sub-sample.
- Annex D examines the differences in the impact of the programme between the two implementation models of the SBCC component, comparing the findings from the 'high'- and 'low'-intensity versions of the programme.

Volume II is a technical compendium that includes more detail on the evaluation methodology, the original Terms of Reference, and changes agreed to the Terms of Reference, and a full set of all our results tables.

2 Quantitative evaluation design and methodology

2.1 The evaluation hypothesis

The evaluation is designed to test five key hypotheses that underpin the programme's ToC. The quantitative impact evaluation component aims to provide direct answers to Evaluation Hypotheses I–III, and supporting evidence for Evaluation Hypotheses IV–VI.

Evaluation Hypothesis I: The CDGP intervention, and in particular the provision of a regular transfer of NGN 3,500[16] on a monthly basis to women, will result in consumption of larger quantities, and more varied types, of food, resulting in an increase in dietary intake and consequently a reduction in child malnutrition.

Underlying assumption: Households do not currently meet their food requirements and will use the transfer for food consumption rather than for other purposes. It is also expected that households will direct the transfer to the most nutritious food and not only spend it on attaining the basic staple diet. This hypothesis also assumes that the transfer will be a sufficient additional source of income, with a limited substitution effect on other livelihoods mechanisms.

Evaluation Hypothesis II: The provision of a regular predictable cash transfer will result in a reduction in negative risk-coping behaviour, and in particular a reduction in the distress sale of assets and debt accumulation among beneficiary households.

Underlying assumption: Beneficiary households are currently engaged in detrimental risk-coping behaviour and the transfer is sufficient to enable them to disengage from this behaviour.

Evaluation Hypothesis III: Through nutritional advice and counselling the programme will improve the KAP of the targeted men and women on nutrition and general maternal and childcare practices.

Underlying assumption: Current KAP are a contributory factor in the poor dietary and health practices of households. This will also depend on the nature and quality of advice and counselling, combined with the availability of good complementary services and support (e.g. health facilities, accessibility of clean water, general hygiene and sanitation practices, etc.).

Evaluation Hypothesis IV: The cash transfer will result in improved material wellbeing and contribute to the relational wellbeing of households through enhanced trust and reciprocal social and economic collaborations.

Underlying assumption: The programme does not negatively impact on existing social networks and sharing practices, and the impact on gender dynamics at the household level is positive.

Evaluation Hypothesis V: The provision of a regular cash transfer to women will enhance their ability to make economic choices and will result in improved social capital.

Underlying assumption: The beneficiary women are able to use the cash transfer as they intend and wider cultural norms are sensitively challenged, while the process is supported through community sensitisation with men and community leaders. If the cash transfer is seen as an unearned windfall it may not be controlled by the woman and may be controlled by the man, with benefits divided among the household members.

[16] This was subsequently adjusted to NGN 4,000 in January 2017.

Evaluation Hypothesis VI: Poor implementation of the programme (i.e. poor targeting, irregular payments, inadequate information dissemination, and an inappropriate SBCC campaign) will mitigate the potential impacts of the programme.

2.2 Method

2.2.1 Randomisation approach and treatment groups

The quantitative impact evaluation is a cluster randomised controlled trial. Villages were randomly selected, by the evaluation research team, to either receive support from the programme or not to receive support. The effects of the intervention are found by comparing households in the villages where the programme has been operating with households in villages where it has not. Households in villages that were randomly chosen to receive the CDGP are called 'treated households' and are in the 'treatment group', i.e. CDGP villages. Households in villages that were randomly chosen to not receive the CDGP are called 'control households' and are in the 'control group', i.e. no-CDGP villages. Randomisation is considered the most rigorous way to quantitatively estimate the impact of the CDGP on eligible households because it is the most robust means of ensuring that the treatment and control groups had similar characteristics before the intervention started to be implemented. Thus, any differences observed at the end of the programme can be attributed solely to the intervention.

This evaluation has two treatment groups and one control group. The first treatment group – henceforth referred to as Treatment 1, or low-intensity (LI) – is offered the cash transfer and 'low-intensity' SBCC. The second treatment group – henceforth referred to as Treatment 2, or high-intensity (HI) – is offered the cash transfer and 'high-intensity' SBCC.[17] The control group received no intervention for the duration of the evaluation, but began to receive the programme after the endline survey was fully completed. The reason for having two separate treatment groups and one control group is to be able to measure the impact of the unconditional cash transfer and 'low-intensity' SBCC as well as the additional effect of providing 'high-intensity' SBCC.

The unit of randomisation is the village. This means that we randomly selected which villages would be in Treatment 1, Treatment 2, and in the control group. The figures below show the location of the 'high-intensity SBCC' CDGP villages, the 'low-intensity SBCC' CDGP villages, and the non-CDGP villages that are included in the evaluation in the five CDGP LGAs. As shown in the graphs, the non-CDGP villages come from the same LGAs as the CDGP villages and thus are likely to be exposed to similar external factors (such as inflation, access to markets, availability of foodstuffs, availability of seasonal work, etc.). This means that when we compare average outcomes from households in CDGP villages with average outcomes from households in non-CDGP villages we can be confident that any differences observed are due to the CDGP[18]. In addition, the extent of similarity between women and households residing in communities exposed to the CDGP interventions, and those in the control group villages, was extensively tested at baseline. We found few differences between the characteristics of these groups at baseline, indicating that randomisation was successful (Carneiro, Rasul, Moore, and Mason, 2015).

[17] As discussed in Section 1.1, 'low-intensity' SBCC is delivered through posters, radio messaging, text messaging, health talks, and food demonstrations, while 'high-intensity' SBCC is delivered through support groups and one-to-one counselling for women receiving the transfer, in addition to all components of the 'low-intensity' SBCC.

[18] As we outline in Section 2.2.2 below, and the more detailed description of our sampling approach in Section 5.5 of Volume II, we randomly sampled one traditional ward from each sampled village. To reflect the fact that our household sample was selected at the traditional-ward level rather than village-level, for the majority of this report we use the terms 'CDGP and non-CDGP communities', rather than villages, to discuss our findings

Figure 4: Evaluation villages in Tsafe, Zamfara

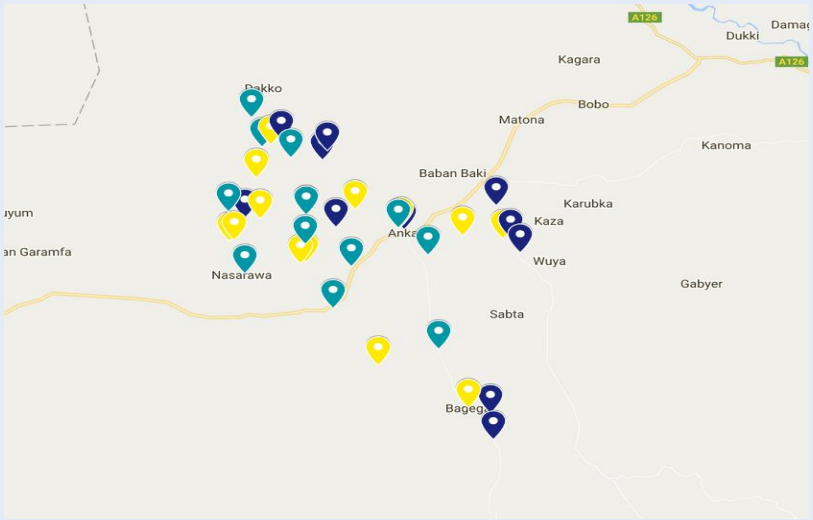
High-intensity SBCC CDGP villages

Low-intensity SBCC CDGP villages

Non-CDGP villages

Source: CDGP midline data.

Figure 5: Evaluation villages in Anka, Zamfara



High-intensity SBCC CDGP villages

Low-intensity SBCC CDGP villages

Non-CDGP villages

Source: CDGP midline data.

Figure 6: Evaluation villages in Buji, Jigawa

High-intensity SBCC CDGP villages

Low-intensity SBCC CDGP villages

Non-CDGP villages

Source: CDGP midline data.

Figure 7: Evaluation villages in Gagarawa, Jigawa

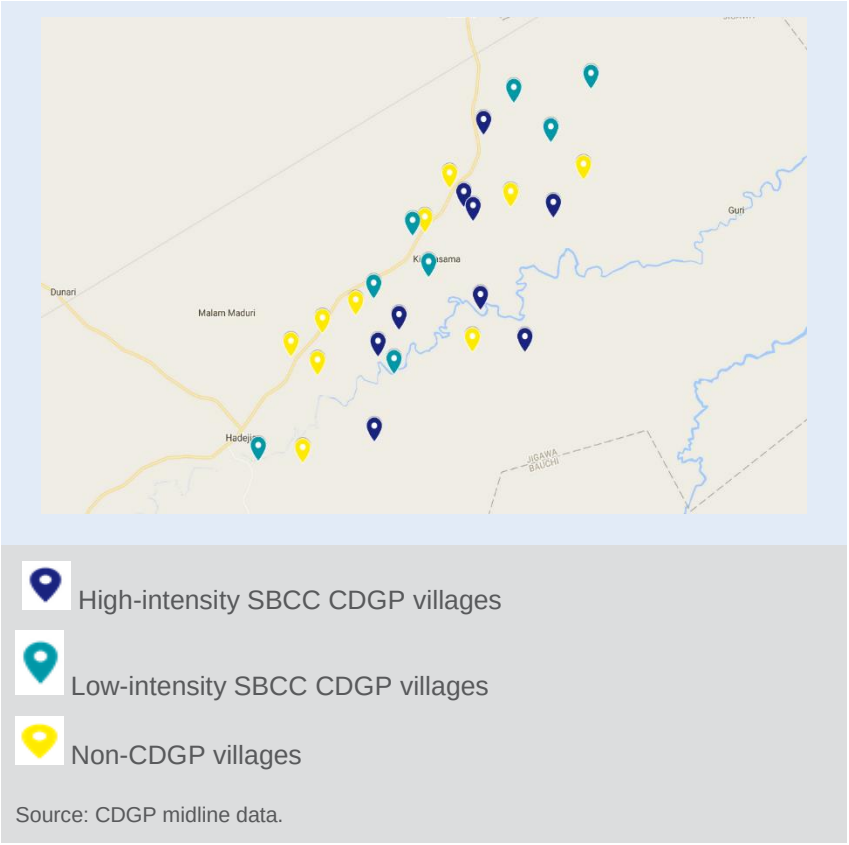
High-intensity SBCC CDGP villages

Low-intensity SBCC CDGP villages

Non-CDGP villages

Source: CDGP midline data.

Figure 8: Evaluation villages in Kiri kasama, Jigawa



Source: CDGP midline data.

Unfortunately, it has not been possible to test the additional effect of the high-intensity SBCC, in the manner in which it was intended to be implemented. When examining the access to SBCC channels (posters, SMS messaging, radio messaging, health talks, food demonstrations, small group meetings, and one-to-one counselling) in CDGP communities, we found that people in both the high- and low-intensity communities reported being exposed to each channel, including the high-intensity channels (which were only meant to be offered in the high-intensity SBCC communities). For example, we found that 38% of women who were pregnant at baseline in the low-intensity communities reported having attended small group meetings in the past 12 months. This is despite the fact that small group meetings were intended to be implemented in high-intensity communities only. The proportion of respondents who reported accessing them in high-intensity communities is indeed higher, but it does not exceed what we see in the low-intensity communities by as much as we might expect, at only 46.9%. This suggests that the way in which the two programme components have been experienced by beneficiaries on the ground is more similar than intended. Additionally, across most of the indicators we examine, we did not find differences between the low- and high-intensity communities.

Therefore, when we present our main findings in this report, we combine the low-intensity CDGP communities and high-intensity CDGP communities to make one group comprising all CDGP evaluation communities. We then compare the CDGP communities with the non-CDGP communities to estimate the effect of the CDGP. This is in line with how the analysis was presented in our midline evaluation report, where we took this decision for the same reason. However, following the presentation of our main results, in Annex D of this report, we do also report impacts separately between the two treatment groups, for a set of key indicators along the ToC.

2.2.2 Data collected

Baseline data were collected from households across both treatment and control groups from August to October 2014, and midline data were collected from October to November 2016.[19] The endline data collection took place between August and October 2019, timed so as to be administered at the same time of the year as the baseline.

The sample of households for interview was drawn from a total of 210 traditional wards across the five LGAs where the CDGP operates. At baseline, the majority of the households sampled were households with at least one pregnant woman, but in villages where we were not able to find enough households with pregnant women to make up a large enough sample, we also surveyed households with women likely to become pregnant during the next three years. We refer to this woman throughout the report as the 'index woman'. In each round of the survey we interviewed this woman and her husband, and collected information about some of her biological children. Our detailed sampling strategy for the survey is described in Section 5.5 of Volume II of this report.

The surveys collected information on households' ability to obtain sufficient and nutritionally diversified food, the risks households face, their access to basic services (including health and markets), and their knowledge of and attitudes toward decision-making and health practices for mothers and newborn children. Children's weight, height, and MUAC were also measured.

In the **baseline survey**, data were collected from a total of 5,433 households, which included data from 5,433 index women (3,688 pregnant and 1,745 likely to become pregnant) and their husbands, and 4,162 children aged 0–59 months.

In the **midline survey**, we successfully re-surveyed 4,783 households[20] and managed to interview 4,628 women. We also gathered information for 4,625 husbands,[21] and surveyed the same child in each household who had been sampled at baseline when they were aged 0 to 59 months. We also collected data for up to one additional child in each household who was a biological child of the index woman, born after the baseline interview, and so was aged between zero and two years at midline. In this report, we refer to this sample of children as the **'midline' child**. The overall proportion of households in our sample that we were unable to reach in the midline survey was 12%. This loss of sample is known as 'attrition'. The main reason for attrition in our survey was insecurity of some sampled communities in the midline survey, which caused the fieldwork teams not to visit a total of 18 sampled communities that were considered to pose a security risk. Section 5.6 of Volume II contains more detailed information on the samples interviewed at baseline and midline. Section 5.8 of Volume II discusses attrition in further detail.

At **endline,** we have successfully re-interviewed 4,239 of the households first sampled at baseline. In 68 of these households (1.6%), the index woman had died or was temporarily away when the teams were in the field. In these households we adopted the same strategy as in our midline survey, and administered a shortened version of the questionnaires for the woman and child to someone in the household who could answer these questions on the index woman's behalf. Among the women surveyed, 2,850 had been pregnant at baseline and constitute our main

[19] There is the potential for seasonal differences between the baseline and midline. However, in the midline data analysis we compared CDGP communities with non-CDGP communities at midline only, and thus any seasonal differences would not have affected our results. Data for both CDGP and non-CDGP communities were collected over the same period at midline.

[20] The majority of attrition was due to our survey teams being unable to access some villages at midline due to insecurity in those areas.

[21] If the husband of the index woman was not available to be interviewed, or refused, a sub-set of questions about the household was posed to whoever in the household was in the best position to answer on his behalf (including the index woman herself, or the household head).

analysis sample (as described further below). In 2,113 cases (51.6%), the husband was not available to be interviewed or refused, and a subset of questions about the household were thus posed to the person in the household who was in the best position to answer for the husband (including the woman herself, or the household head). In conclusion, we have some information for 4,094 husbands. Again, the main reason for attrition in the endline survey was insecure conditions in some parts of the evaluation sample, which prevented teams from visiting a total of 28 communities.

At endline, we have re-surveyed children in the household who had first been sampled at midline (the midline child), and had been aged zero to two years at the time.[22] Of the 3,691 of these children surveyed in the midline wave, the teams were able to trace and survey 2,981 (80.7%) of them. 237 (6.4%) had died between midline and endline, and 101 (2.7%) had left the household where the index woman lives. We have also collected data for a new sample of children at endline: a randomly chosen biological child of the index woman, born between the midline and endline surveys. We refer to this sample of children as the **'endline' child** in this report, and we collected data for 2,741 of these children in total.

In summary, the endline sample has 4,239 households, including data from 4,171 women (of which 2,850 (68.3%) were pregnant at baseline and constitute our main analysis sample), 4,094 husbands, 2,981 children born between baseline and midline (of which 2,209 (74.1%) were born to mothers who were pregnant at baseline), and 2,741 children who were born between midline and endline (of which 1,886 (68.8%) were born to mothers who were pregnant at baseline). A detailed description of the fieldwork for the quantitative evaluation, including the insecurity challenges affecting implementation, is provided in Section 8 of Volume II. Section 5.8 of Volume II further describes attrition in the sample and the checks undertaken to test whether this attrition may have introduced bias into our sample.

The sample sizes for the baseline, midline, and endline quantitative surveys are summarised in Table 1 below.

Table 1: Summary of sample sizes across all waves of the survey

	Total households	Index Women		Husbands	Children aged under two at midline		Children aged under two at endline	
		Pregnant at baseline	Not pregnant at baseline		Born to women pregnant at baseline	Born to women not pregnant at baseline	Born to women pregnant at baseline	Born to women not pregnant at baseline
Baseline	5,433	3,688	1,743	5,416	N/A	N/A	N/A	N/A
Midline	4,783	3,225	1,403	4,652	2718	973	N/A	N/A
Endline	4,239	2850	1,389	4,094	2,209	772	1,886	855

Source: CDGP baseline, midline, and endline survey data

[22] In households that were not interviewed at midline but have been successfully located at endline, we randomly selected the 'midline' child again at endline, applying the same criteria as in the midline survey. This is a child in the household who was born after the baseline but before the midline survey, and is a biological child of the 'index woman'. In cases where there was more than one child born between the baseline and midline, we have randomly selected one child.

2.2.3 How impact is measured

Our primary estimates of the impact of the CDGP are based on a sub-sample of the households we have surveyed at endline. In particular, we focus on the households where the index woman reported being pregnant at baseline. The main estimates of the effect of the CDGP contained in this report are found by comparing the endline outcomes of women who were pregnant at baseline (and their households/husbands/children) residing in CDGP communities to women who were pregnant at baseline (and their households/husbands/children) residing in non-CDGP communities.[23] In our baseline report we showed that women in CDGP communities and those living in non-CDGP communities were not different on average; we can therefore be confident that any differences observed at endline are a result of the CDGP.

The comparison we make is between women who reported being pregnant at baseline in CDGP communities with women who reported being pregnant at baseline in non-CDGP communities, *regardless of whether they actually received the programme or not*. This is the simplest possible comparison, which measures the impact of programme *availability* on outcomes. This is to ensure that the effects we measure pertain to women who were eligible to receive the cash component of the CDGP at the beginning of the study. We do this so that our results are not subject to any selection bias, which could be the case if we only compared women who actually ended up receiving the programme, and if these women were in some ways different from those who did not end up receiving the programme. Selection bias could arise if some women try to get pregnant in order to receive CDGP payments, and if these women are in some way different from the women who do not try to get pregnant in order to receive the CDGP. This measure of impact is called the intention to treat (ITT) estimate because it considers women who the programme intended to enrol and not only those who did actually enrol. The ITT estimate can, however, result in an underestimation of the effect of the programme because some people in the treatment group do not actually receive the programme.[24]

It is also important to be aware of the possible influence of 'spillovers' between treated and control villages, when interpreting our ITT estimates. The presence of 'spillovers' refers to the situation where households residing in non-CDGP communities may be indirectly exposed to some components of the programme, especially the behaviour change messages. It has been documented in the qualitative midline report that information can spread quite rapidly to non-beneficiary women within the same community (Sharp and Cornelius, 2017). If such information spreads to neighbouring non-CDGP communities too, an improvement in knowledge and practices might be observed in those areas as well. This is a second reason why our ITT estimates may provide an underestimate the true effect of CDGP.

As discussed above, apart from women who were pregnant at baseline, the remainder of our sample is made up of women who were not pregnant at baseline. Women who were not pregnant at baseline are generally not included in our sample when estimating the impact of the CDGP for the main results presented in the findings section of this report. However, we do assess impacts of the programme on this sub-sample for a smaller set of key outcomes. We also look at the sample

[23] This method of analysis may be referred to as 'single-difference'. This means that we are drawing a comparison between outcomes observed at endline, rather than comparing the difference in the change in outcomes between baseline and endline (a double-difference, or 'differences in differences' approach).

[24] In view of this potential for the ITT estimates to underestimate the impact of CDGP for women who actually received the programme, we also carry out a 'treatment on the treated' (ToT). ToT estimates are performed by comparing women who reported being pregnant at baseline in CDGP communities, who actually received at least one payment from CDGP, with women who reported being pregnant at baseline in non-CDGP communities. The findings of this analysis are presented in Annex B of this report.

of women who were not pregnant at baseline to understand if the CDGP has had an effect on fertility choices.

A detailed description of the method is presented in Volume II.

2.2.4 Types of comparison that we draw in our analysis

This evaluation has had access to an extremely rich dataset that affords many possibilities for conducting different types of analysis to shed light on different aspects of the programme's ToC. In this report, we often present analysis that compares findings for two groups of interest within our sample. These comparisons are designed to provide different types of insight on different dimensions of the programme in relation to it's ToC. Below we briefly outline these various types of comparison, and what they can tell us.

1. **Comparisons between midline and endline results**

   For the main results presented in this report, we show findings from the midline and endline periods side by side. This type of comparison helps to reveal whether and how the impacts of the CDGP have changed over time. A key difference between our main analysis sample at midline and endline is that, while at midline the majority of households in CDGP communities were current recipients of the cash transfers, at endline the majority have now exited the programme[25]. Differences between the findings at midline and endline therefore give an indication of whether the CDGP has impacts that persist after the cash component of the programme has come to an end.

2. **Comparisons between the 'midline' and 'endline' child samples (at endline)**

   As described in Section 2.2.2, our endline sample contains sub-samples of two different age groups of children. The older child, who we refer to as the 'midline child' is a biological child of the index woman who was born in between the baseline and midline surveys. The younger child, who we refer to as the 'endline child' is biological child of the index woman who was born in between the midline and endline surveys. Thus, the sample of endline children are the younger siblings of our sample of midline children.

   In our main analysis sample, the sample of midline children are within the age range to be directly exposed to the CDGP transfers. This means that they are of the right age group to have been the child for whom the mother was pregnant with during the baseline survey, and received CDGP transfers for. Effects on this sample of children can be interpreted as showing the impact on children of being directly exposed to the cash. Results for the endline child sample then represent the impacts of being younger siblings of children who were directly exposed to the cash. Examining differences in impacts between these two groups of children is of considerable interest in understanding whether any positive impacts of the CDGP that we observe for older children are continued for subsequent children in the household.

[25] During the time of the midline survey around 91% of the households in our main analysis sample in CDGP communities were still receiving transfers from CDGP (See Table 29 of Volume II of this report). Yet by the time of the endline survey, most of these households have now exited the programme, with only 9% households in low-intensity communities and 10% of households in high-intensity communities currently receiving transfers when interviewed. Recall that our main analysis sample consists of households that were eligible for programme support when the intervention first started in CDGP communities, due to having a pregnant woman residing in them at the time of the baseline. It is therefore as expected that most have exited the programme at endline, four years after the programme began operations.

3. **Comparisons between households that contained a woman who was pregnant at baseline, and households that did not**

   The main results presented in this report relate to the sample of households where a woman reported being pregnant at the time of the baseline survey. However, it is sometimes instructive to consider differences between this sample and our second sub-sample of households that did not contain a pregnant woman at baseline.

   A key difference between these two sub-samples is in the timing at which they were exposed to CDGP cash transfers. Women who were pregnant at the time of the baseline survey and residing in CDGP communities were eligible to receive transfers from CDGP relatively early on during its roll out. This sub-sample were therefore exposed to a relatively 'early' version of the programme. Women who were not pregnant during the baseline, but became pregnant and enrolled in CDGP afterwards may have experienced the programme differently due to being exposed to a more mature version of it. Comparing results between these two sub-samples may indicate whether the impact of the CDGP changed as the programme developed. We explicitly compare impacts for these two groups in Annex C of this report; and we also consider some differences in the experience of programme implementation between the two groups in Section 4.

4. **Comparisons between women and their husbands**

   For some of the domains in this report, we compare impacts for women and men in our sample. We do so in order to explore the dynamics of how CDGP has influenced different members of the household. For example, in our results on KAP, we compare results for women and their husbands to help understand whether CDGP was successful in shifting attitudes among men as well as women.

5. **Comparisons between low- and high-intensity communities**

   As mentioned in Section 2.2.1, (and discussed in more detail in Section 4 below), the majority of the findings presented in this report combine the results from the two different kinds of CDGP community. However, we dedicate Annex D to examining differences in impact between the two kinds of community. We also consider differences in how they were implemented in Section 4. These findings help to explore the differences between the two implementation models that CDGP was designed to test.

In addition to these main types of comparison, there are also places in the report where we consider additional comparisons, where relevant. These include comparing impacts on child-related outcomes for boys and girls, comparisons between the two states where the CDGP was implemented, and some analysis of how results vary by the wealth status of the household.

2.3 Limitations

This section outlines the limitations of the evaluation, and describes how these limitations might affect the interpretation of our findings and the conclusions presented in this report.

We are not able to estimate the additional effects of the high-intensity form of behaviour change communication, in the manner in which it was intended to be implemented

Comparisons between villages receiving high- and low-intensity versions of SBCC do not reveal any pattern of significantly different effects. This might be because the high-intensity SBCC is ineffective, or because the programme was actually implemented in similar ways across the two modalities. In this report, we present evidence that suggests the latter. In Section 3 we show that implementation of the SBCC component of the programme has been similar in villages randomised to high- and low-intensity. The percentage of women and their husbands who report being exposed to support groups and one-to-one counselling, while always higher in the high-intensity communities, is more similar than we would expect given that these activities were not scheduled to take place at all in low-intensity communities. This points to similarities in the experiences of beneficiaries of the two components of the programme, which lead us to present our main impact results by pooling both groups of villages together. Pooling the two treatment groups together gives the main analysis more power to detect impacts of the overall CDGP strategy – namely the bundling of cash and information to improve household welfare and children outcomes. We continue to report on differences in impact between the two types of treatment community, and explore these results in a dedicated section at the end of this report (Annex D), after presenting the main, pooled, results.

The effects presented in this report are likely to be an underestimation of the true effects of the CDGP

Our evaluation design effectively excludes prior differences in household characteristics, so that we can confidently attribute the estimated impacts to the CDGP. However, the effects we present are likely to be underestimating the true effects of the programme. This is for the following main reasons:

- Some imperfections in the implementation of the programme resulted in imperfect coverage of women reporting to be pregnant at baseline, with 90% of them actually receiving the grant. Net of errors in assessing pregnancy at baseline, this means that not all the women in CDGP villages ended up receiving the grant. We also find that 11% of women in non-CDGP villages reported having received the cash grant at any time between the baseline and endline evaluation periods.
- There is the possibility that some of the knowledge effects introduced by the CDGP have ‘spilled over’ to non-CDGP villages, improving measured outcomes.
- We show later in this report that there were some delays in women receiving their first payment from the CDGP, with many women not receiving their first payment until close to the time of delivery. This is especially true of women who were enrolled into the CDGP early on during its implementation. These initial delays in receiving cash may have weakened the impact of the programme.

As a result, our ITT approach would lead to smaller estimates of the effects of the programme. As such, the estimates should be viewed as ‘lower bounds’ of the true effect. While this approach might not enable us to accurately measure the exact magnitude of impacts, it avoids possible bias in selection, while providing a conservative estimate of programme impact.

The report evaluates an 'early' version of the programme

By focusing on women who were already pregnant at baseline, the main results contained in this report correspond to households who enrolled in the programme in its earliest phase. As such, our evaluation is not designed to capture the effects of changes in how the CDGP has been implemented over time. The baseline process evaluation documented some challenges in the roll-out of the programme, which have since improved. These included delays in enrolment of new beneficiaries to receive cash transfers, as well as delays in the initiation of SBCC activities (Sharp, Visram, Bahety, and Kardan, 2016). These issues may have attenuated the impact of the programme on households who were enrolled very early on in implementation. Although our main results are not able to capture these implementation dynamics, we do present some additional findings in Annex C of this report that seek to shed light on whether there are differences in impact for households who received transfers later on during the implementation period.

Our sample is not representative of the population in the areas in question

There are two reasons for the lack of representativeness:

- We only selected households where at least one woman was pregnant (or likely to become so) immediately prior to the start of the programme. These households are obviously not representative of all households in the sampled communities.
- Our sampling strategy (detailed in Sections 5 and 6 of Volume II of this report) over-represents households residing in smaller villages. Given the lack of census data for these areas, we do not attempt to reconstruct weights to balance the analysis.

However, the effects we estimate do represent a specific population (namely, households where a woman was pregnant during the baseline survey, and households containing women likely to become pregnant in the near future) that is arguably of great policy interest. The evaluation also covers all the villages where the CDGP is operating (with the exception of the 15 pre-pilot villages)[26] and thus provides a robust estimate of the effect of the CDGP.

There is a risk of self-reporting bias for some outcomes

Some of the outcomes considered in the survey may be subject to self-reporting bias, since they are not directly observed but instead asked of respondents. For some particular outcomes, such as IYCF practices and nutrition, respondents might have an incentive to overstate their compliance with correct practices, especially if these are stressed in SBCC communication. However, during the endline survey, we have adopted additional strategies in the questionnaires to try and probe some of these dimensions more closely, in order to guard against possible self-reporting bias. This should also be less of an issue with more 'neutral' outcomes such as activities or expenditures. Moreover, anthropometric measurements have been taken directly by our trained survey teams, bypassing self-reports entirely.

The endline sample size is significantly reduced compared to baseline

Overall, at endline it has not been possible to interview 22% of the households that were surveyed at baseline. This is overwhelmingly due to security issues that have prevented the survey teams from visiting 28 of the 210 sampled evaluation communities. This might reduce the power of our analysis to detect effects.

[26] As described in Section 5.5 of Volume II of this report, our sampling strategy involved selecting one traditional ward from each village (given that villages themselves were too large to list in their entirety for the survey).

2.4 How to read the main tables and figures in this report

In this sub-section, we provide an overview of how the main types of results tables and figures used in this report are laid out, to help the reader interpret them. A more comprehensive guide to all the table and figure types is provided in Annex A, which may be used as a reference.

2.4.1 Format of the main type of results table

An example of the standard format for tables displaying our main results is shown in Table 2 below. This type of table presents the results for each indicator at midline and endline in adjacent columns, so that they may be compared. It has the following columns:

- **N:** The total number of observations used to estimate the indicator.
- **Non-CDGP mean (SD):** The mean value of the indicator in non-CDGP communities. The **standard deviation** (SD), presented below the mean, is a measure of how much variation there was in the answers that were given by the respondents.
- **CDGP effect (SE):** This is the estimated effect of the CDGP on the indicator. The standard error (SE), shown in brackets, measures the level of uncertainty around the estimated effect. When the effect is statistically significant we mark it with asterisks (* = significant at the 90% level, ** = significant at the 95% level, *** = significant at the 99% level)
- **ML-EL diff, p-value:** This provides results of a statistical test comparing impact size at midline and endline. This shows whether the effect of the CDGP has changed between the two time periods. A p-value of below .01 implies that there is a difference between the estimated effects at endline and midline that is significant at the 99% level. A p-value of below .05 corresponds to a 95% significance level, and a p-value below .1 to 90% significance.

The majority of our tables show results pertaining to our main analysis sample (households that contained a pregnant woman at baseline). However, at some places in the report we also show findings relating to households that did not have a pregnant woman in at baseline.

Table 2: Example table – Main results

	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP Effect (SE)	p-value
Indicator							
Notes:							

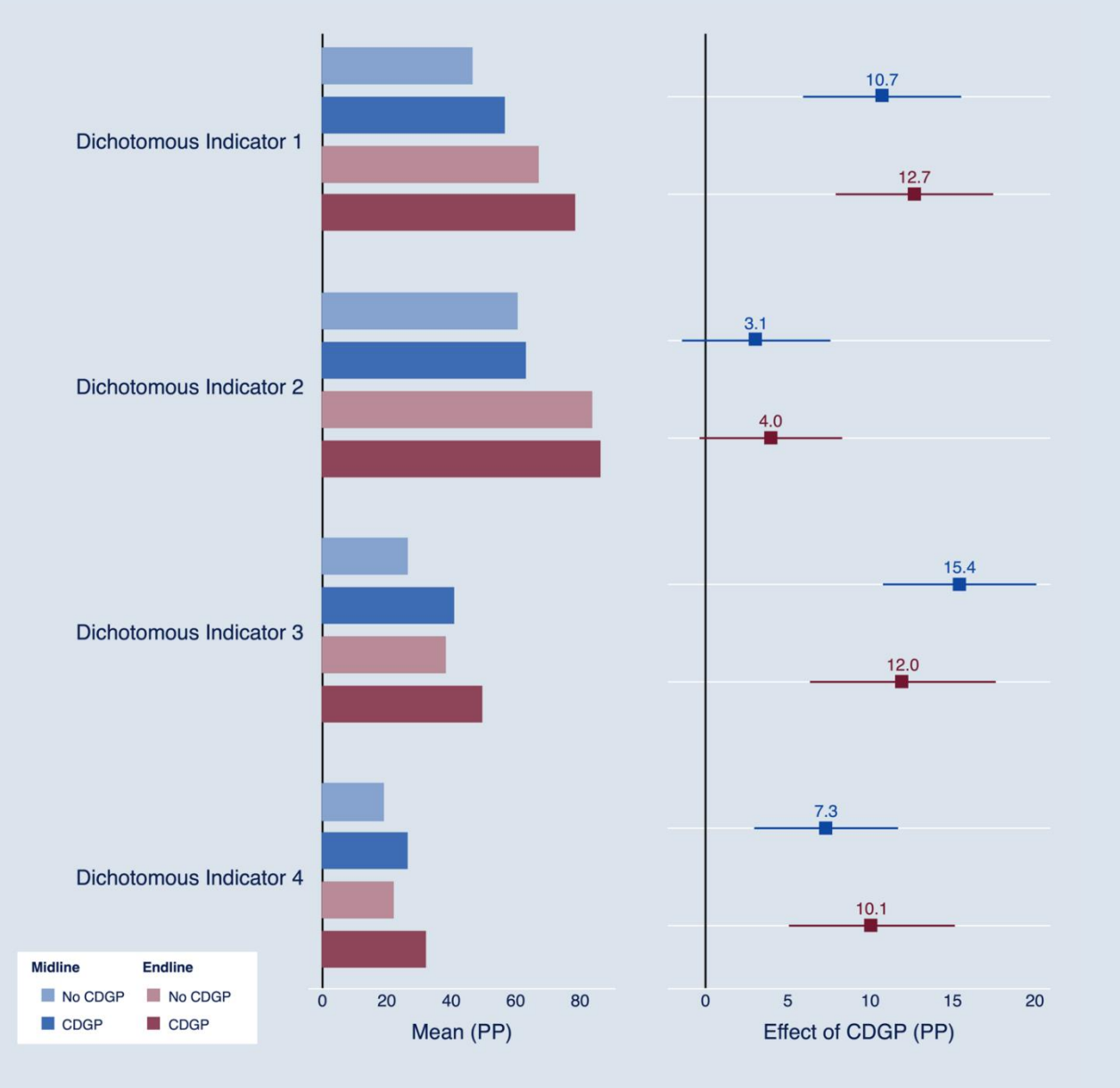
2.4.2 Format of the main type of figure

Figure 9 provides an example of the format in which many of our key results are illustrated, in figures used in this report.

The figure displays a set of key indicators on the left-hand side. The horizontal bar chart next to each indicator shows mean levels, in CDGP and non-CDGP communities, at midline and endline. Blue bars represent the means at midline, and red denotes the corresponding means at endline.

Effect sizes for each indicator are illustrated on the right. The long vertical line represents zero (no effect). The effect size for each indicator is then given by a square marker, with the estimated effect written above it. The further from the zero line this point is, the larger the estimated effect. The effect is positive when the point is to the right of the zero line, and negative to the left. The horizontal line extending from this square shows the width of the 95% confidence interval attached to this estimate. The narrower the interval, the more precise the estimate.[27] If the confidence interval does not overlap with the vertical zero line, it means that the effect is statistically different from zero at the 95% level.

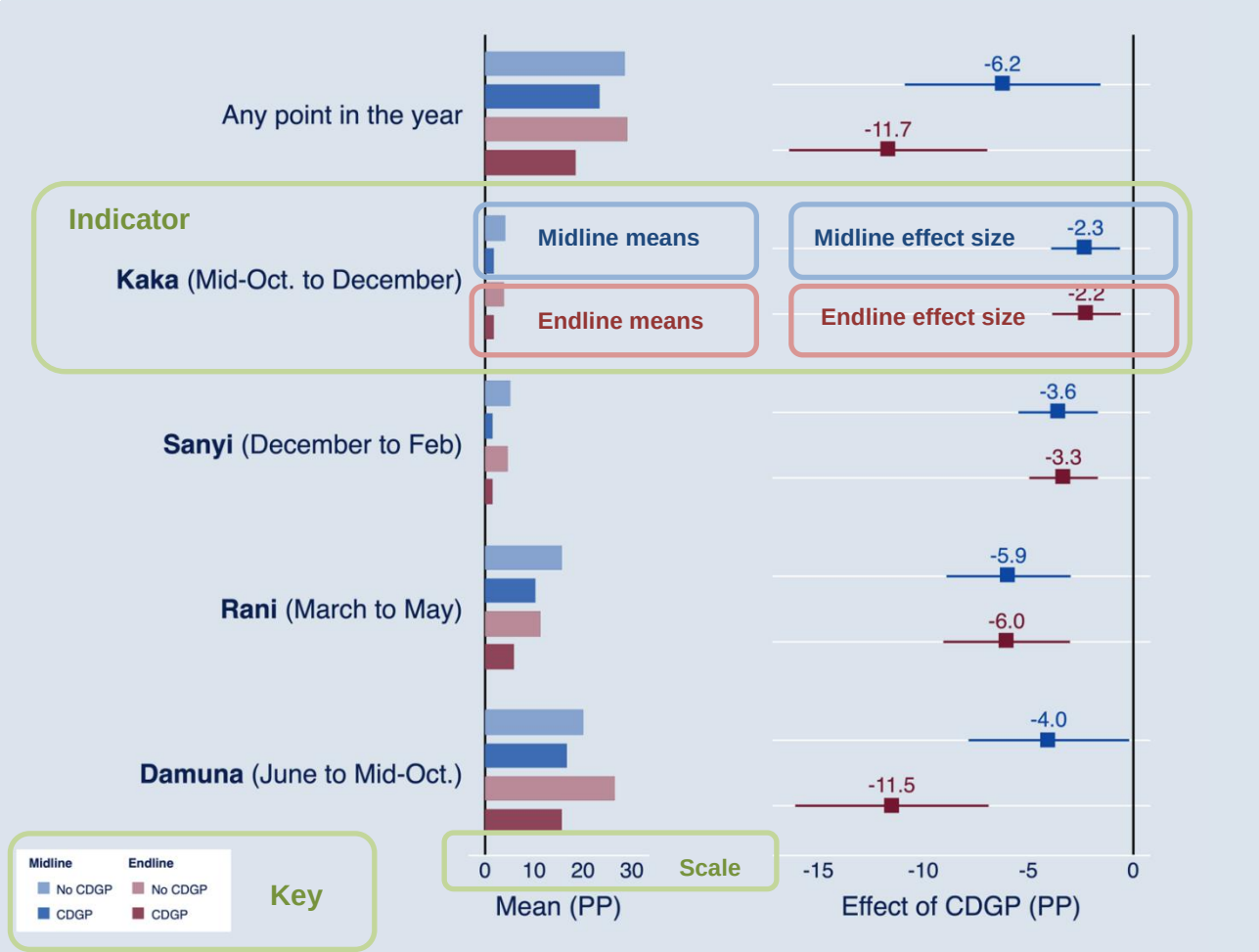
Figure 9: Example figure: Effects



[27] In particular, the confidence interval represents the following probabilistic idea: if we were able to draw a large number of samples of the same size from the reference population, we would expect the mean of the indicator to fall within the confidence interval in 95% of the cases.

An annotated example of this type of figure is provided in Figure 10 below.

Figure 10: Example annotated figure, effect of the CDGP on households without enough food in the past 12 months



Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The left panel shows unweighted estimates of mean levels in non-CDGP and CDGP communities, by wave. The right panel shows the effect of the CDGP, where the number and square are the point estimates and the line is the 95% confidence interval. The effect is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the vertical line*. The line indicates zero effect.
3. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
4. The figure reports answers to the question 'During [PERIOD], did you always have enough food for your household?' (Yes or no). The means report the mean number of respondents indicating that they did not have enough food during each period asked, and in across all periods asked.

Annex A contains further detail on how the tables and figures in this report are laid out, and may be used as a reference guide to help interpret them.

Part B: Findings and analysis

3 Description of evaluation communities

We begin by describing the setting in which our evaluation takes place, by describing some of the economic features of the communities in our evaluation sample.[28]

Key findings

At endline the CDGP continues to be implemented in an extremely fragile context, characterised by frequent incidence of both man-made and natural shocks. The most common natural shocks are related to crop damage and disease, whilst the most common man-made shocks are cattle rustling and land disputes. Communities in Jigawa have experienced a greater burden of crop failures than those in Zamfara, while cattle rustling, kidnapping incidents, and violence are relatively more common in Zamfara. Levels of insecurity, particularly in Zamfara, have deteriorated over the course of the implementation, with serious consequences for communities in affected areas, as well as for the CDGP's operations and the evaluation itself.

The majority of evaluation communities have a primary school in them, although less than half have a regular market or health facility present within the community. However, even where these are outside the community itself, the majority of communities are close to a nearby health facility and market.

CDGP and non-CDGP communities are generally similar in terms of their infrastructure and the incidence of shocks they have faced in the past 12 months. This helps to provide assurance that the CDGP and non-CDGP in our communities had similar underlying characteristics prior to the intervention, and only differ in their exposure to CDGP. However, we do find evidence of lower rates of kidnapping and disease epidemics in the CDGP communities at endline. We also find that a higher proportion of CDGP communities report having another programme operating in them apart from the CDGP, although this difference is not statistically significant.

Communities in the evaluation sample face significant vulnerability to a number of negative shocks. The types of shock faced by communities in the evaluation sample in the 12 months preceding the endline survey are illustrated in Figure 11. These shocks are divided into those related to natural causes (shown in the top panel) and those that are man-made (shown in the central panel). In this figure, and the rest of the figures in this sub-section, we compare the situation at midline (shown by the red bars) with the situation at endline (shown by the blue bars)[29].

Figure 11 shows that over 90% of all evaluation communities experienced a natural shock in the 12 months preceding the survey (bottom panel), with the most common natural shocks being related to disease epidemics and crop damage. Fewer communities were affected by man-made shocks, though these are still reported in the majority of communities. At endline, we have added two new types of shock to the questionnaire: violence due to kidnapping or armed bandits and disease epidemics. Altogether, the most commonly reported man-made shocks faced by communities are those related to cattle rustling and widespread migration.[30] Reported rates of violence in villages

[28] The socio-economic and demographic context of the LGAs and states where the CDGP intervention and its evaluation occur have also been explored elsewhere. See Leavy *et al*. (2014) for an initial 'situation analysis' of the evaluation LGAs, which describes their poverty situation, social and cultural dynamics, and practices and attitudes around dietary and feeding practices, among other themes.
[29] Some indicators have been newly added to the questionnaires at endline; for these indicators no midline result is presented.
[30] Note that both man-made and natural shocks may appear to be more common at endline than in our midline community survey simply because we have added kidnapping (categorised as a man-made shock) and disease epidemics (categorised as a natural shock) to our community survey.

and curfews are found to be slightly higher at endline than midline, although these increases are not statistically significant.[31]

Figure 12 describes the incidence of each type of shock across the two states in the evaluation sample. Shocks are prevalent across both states, but there are some differences in which kinds of shock are more common. Curfews, cattle rustling, and kidnapping are found to be far more predominant in Zamfara, whilst crop damage affects communities in Jigawa to a greater extent. In Volume II, we provide more detailed statistics related to the incidence of these kinds of shock, how long such shocks last for, and the kinds of consequences they have in terms of disruption of village life and the local economy.[32]

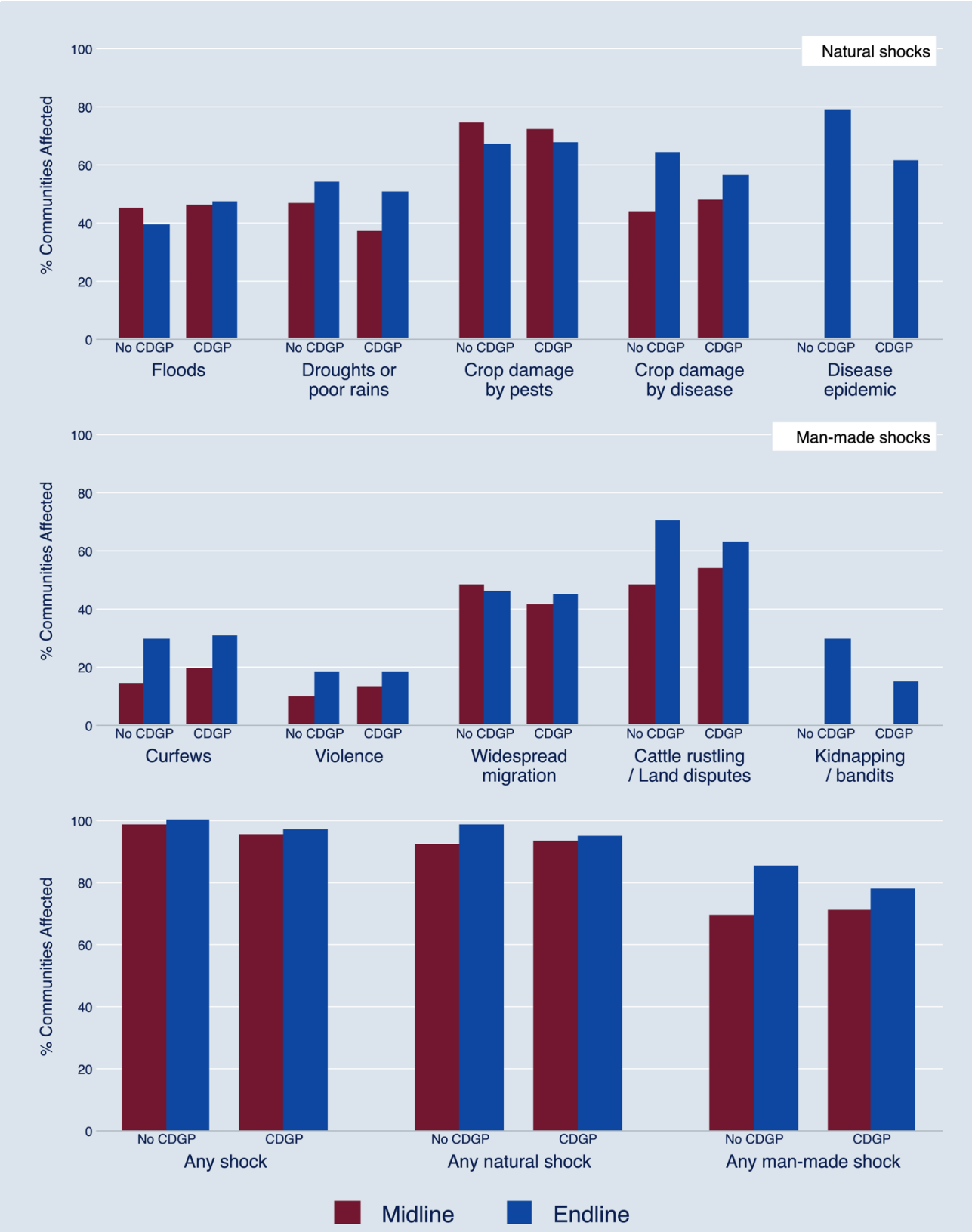
For the most part, CDGP and non-CDGP communities have a similar likelihood of being affected by each type of natural and man-made shock. However, there is some evidence that the frequency of certain shocks is lower in CDGP communities. In particular, the prevalence of disease epidemics, kidnapping and armed bandit episodes, and violence is significantly lower in CDGP communities at endline (see Table 17 of the Volume II report). In Volume II of this report we also show that in Jigawa, significantly fewer CDGP communities have been affected by crop damage due to disease in the last 12 months (see Table 86 of Volume II). These differences might be a concern for the evaluation if these represent systematic differences in the underlying characteristics of the two communities, apart from their exposure to the CDGP. Recall from Section 2 that the measurement of impact in this report relies on the assumption that CDGP and non-CDGP communities were very similar on average before the introduction of the CDGP. However, the success of the randomisation approach was examined in detail in the quantitative baseline report, where we found very minimal differences between CDGP and non-CDGP communities before the programme started (Carneiro, Rasul, Moore, and Mason, 2015). The few differences we find at endline may possibly represent impacts of the CDGP. The endline Process Evaluation found some evidence that the CDGP has increased its efforts over time to actively monitor insecurity conditions in the communities in which it is implemented, in an effort to ensure the safety of community members, programme staff, and volunteers (Visram, *et al*., 2018). It is possible that this long-term engagement in security issues over time has contributed to some of the differences we observe between CDGP and non-CDGP communities in kidnapping and armed banditry episodes at endline.

The high prevalence of shocks across our sample underscores the fragility of the communities in which the CDGP operates. These shocks have the potential to negatively affect households' livelihoods, the market prices they face, their ability to access basic services, such as healthcare, and their overall wellbeing. It is important to note that the incidence of insecurity challenges affecting our sample will be under-reported in the figures we present in this section, since communities that posed the greatest security risk were not visited for the midline and endline surveys. At endline, all such communities are in Zamfara, where conditions have particularly deteriorated during the CDGP's implementation period. This worsening security situation forms a key backdrop for situating the evaluation's results at endline. It has also greatly affected the CDGP's own operations, which is discussed further in the endline Process Evaluation report (Visram, *et al.,* 2018).

[31] Our results at both endline and midline may to some extent under-estimate the true prevalence of insecurity in the evaluation sample, given that communities that posed the greatest security risk were excluded from the sample. In total, we have not visited 28 sampled communities at endline due to security risks, and we did not visit 18 communities at midline for the same reason.

[32] The range of natural and man-made shocks we find in the community survey is consistent with the findings of the midline and endline qualitative reports, which also document a range of different shocks. The qualitative reports further discuss some of the risk-coping behaviours adopted by households in response to these shocks, including the sale of assets and borrowing.

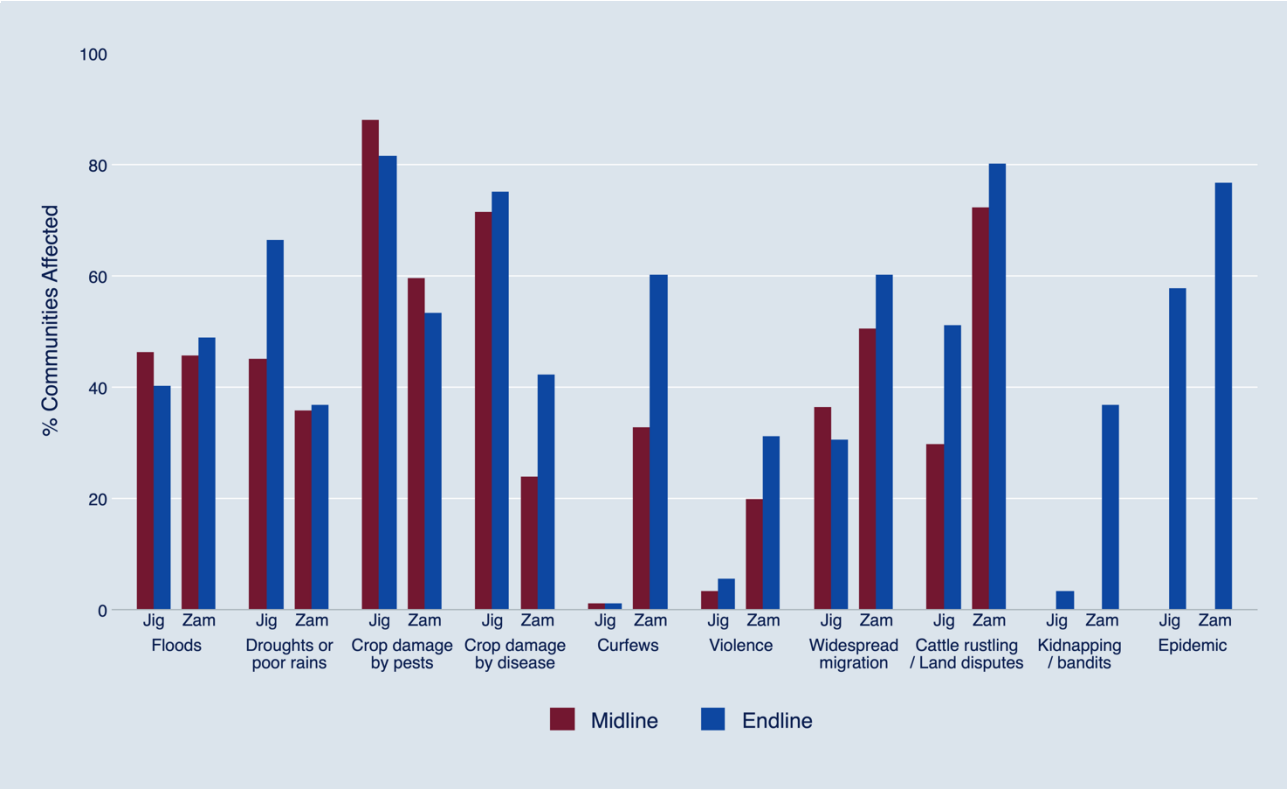
Figure 11: Proportion of evaluation communities affected by shocks



Source: CDGP midline and endline survey data. Notes:

1. The sample is all communities surveyed in the baseline survey in 2014, which could be re-visited again at midline and endline (that is, that were not subject to an insecurity risk). In each community, we interviewed a focus group of elders in the evaluation traditional ward.
2. Each bar represents the proportion of communities in our sample who report being exposed to each of the shocks in the 12 months prior to the interview. All estimates are unweighted.

Figure 12: Proportion of evaluation communities affected by shocks, by state



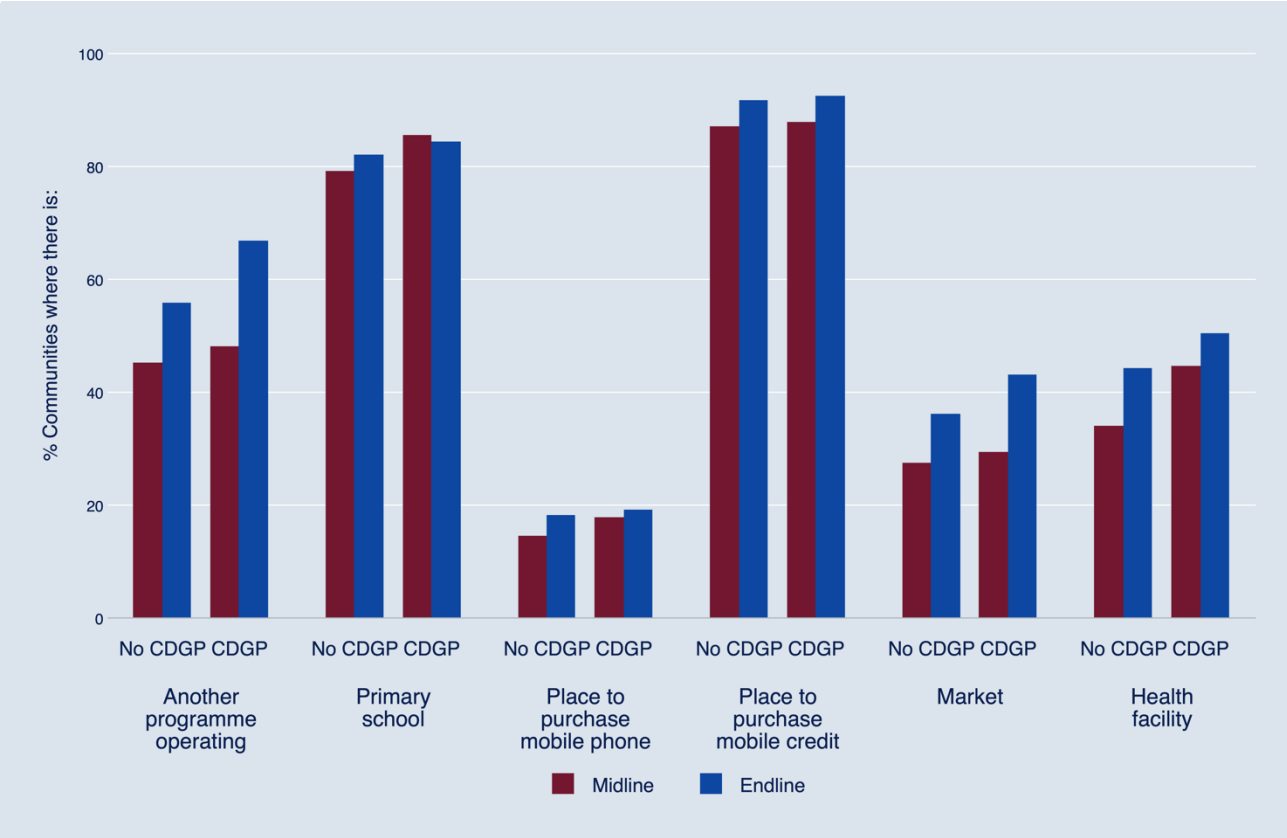
Source: CDGP midline and endline survey data. Notes:

1. The sample is all communities surveyed in the baseline survey in 2014, which could be re-visited again at midline and endline (that is were not subject to an insecurity risk). In each community, we interviewed a focus group of elders in the evaluation traditional ward.
2. Each bar represents the proportion of communities in our sample who report being exposed to each of the shocks in the 12 months prior to the interview. Jig = Jigawa state. Zam = Zamfara state. All estimates are unweighted.

Figure 13 illustrates the availability of different facilities and infrastructure in our evaluation communities, and Table 3 below it shows the average distance from the community to each amenity. The majority of sampled villages have a primary school, but less than half have either a market or a health facility.[33] Even if they do not have a fully-fledged market, most communities do nonetheless have a place where mobile credit can be purchased. We also find that over half of communities report having some kind of programme operating in them other than the CDGP, with a slightly higher proportion of CDGP communities reporting the presence of another programme than the non-CDGP communities. However, this difference is not statistically significant. In Volume II (Table 17) we provide more details on the nature and type of other programmes that are reported to be active in the sampled communities. We find that the most commonly reported programmes are those organised by non-governmental organisations (NGOs), with the second most common being government-run programmes. The most common type of programme is those related to infrastructure, with cash transfers reportedly being rare in this setting.

[33] For the purposes of the survey, we define a market as a congregation of multiple (at least two or more) sellers with a selection of multiple (at least two or more) categories of food commodities to be purchased, i.e. grains, tubers, fruits, vegetables etc. A market can be made up of only retailers or retailers and wholesalers.

Figure 13: Proportion of evaluation communities with basic amenities



Source: CDGP midline, and endline survey data. Notes:
1. The sample is all communities surveyed in the baseline survey in 2014. In each community, we interviewed a focus group of elders in the evaluation traditional ward.
2. The height of the bar represents the percentage of communities where each of the facilities is present. All estimates are unweighted.

We have collected the GPS coordinates of communities in our sample, and the health facilities and markets that serve them. This enables us to compute distances between each community and their closest market and health facility. These distances are geodesic, or 'as the crow flies'. Table 3 below reports the average distance of CDGP communities from the nearest health facility and market, as well as the proportion of communities that lie within 1 km of each. We can see that around half of the communities are within 1 km of the nearest market or a health facility,[34] and that there are no significant differences in distances to these facilities between non-CDGP and CDGP communities. This is as expected, given the randomised allocation of the programme.

[34] The maximum distances from the closest health facility and market to a community in our sample are 7.6 km and 9.5 km, respectively.

Table 3: Distances

	Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	p-value
Distance from closest health facility (km – straight line)	185	1.4	0.09	0.92
		(1.5)	(0.24)	
% communities whose distance from closest health facility is:				
Under 1 km	185	57.4	-2.60	0.93
			(7.93)	
1 to 5 km	185	39.3	3.93	0.93
			(7.75)	
More than 5 km	185	3.3	-1.33	0.99
			(2.67)	
Distance from closest market (km – straight line)	185	1.9	0.27	0.85
		(2.4)	(0.36)	
% communities whose distance from closest market is:				
Under 1 km	185	54.1	-4.05	0.85
			(7.67)	
1 to 5 km	185	32.8	3.87	0.98
			(7.58)	
More than 5 km	185	13.1	0.18	0.81
			(5.51)	

Source: CDGP midline, and endline survey data. Notes: Distances reported in this table are geodesic distances, i.e. they use mathematical approximations to take into account the Earth's curvature. They are computed using the STATA program *geodist* (Picard, GEODIST: Stata module to compute geodetic distances, 2010).

1. The sample is all communities surveyed in the baseline survey in 2014. In each community, we interviewed a focus group of elders in the evaluation traditional ward.
2. N = number of non-missing observations. Mean = unweighted estimate of the mean.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. ML-EL diff. = p-value of the difference between the effect at midline and at endline.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'ML-EL diff.' are estimated by ordinary least squares (OLS) regression with LGA and tranche fixed effects. SEs are robust to heteroskedasticity. Significance levels: * (10%), ** (5%), *** (1%).

4 Implementation of the CDGP

This section describes how the CDGP has been implemented in practice. This helps provide information on the extent to which the programme has operated as per its design. For the results presented in this section, we also examine how the programme has been rolled out in high and low-intensity SBCC communities, respectively[35].

Key findings

At endline, awareness of the programme remains extremely high in CDGP communities, among both women and their husbands. This points to a widely recognised programme that has an established presence in the communities where it works. **Uptake of payments** is also high; with around 90% of women who were pregnant during the baseline in CDGP communities having received transfers by the endline. However, **in non-CDGP communities, by endline we find that 11% of women pregnant at baseline had also received payments from the CDGP.** This could be due a number of factors, including women from non-CDGP communities pretending to be from CDGP communities in order to receive payments.

There is variation in the stage of pregnancy when payments start for different women, with some women only receiving payments late into their pregnancy or around the time of delivery. Women who enrolled in the programme later on in implementation have on average received their first payment earlier in pregnancy; however, some delays are still evident. The timing of beneficiaries' exit from the programme in relation to the age of their child also varies. Some women appear to receive transfers for one or two months longer than intended by the programme; however, we do not find evidence of women remaining in the programme for considerably longer than the expected period. **Women are generally able to retain control over the transfer** themselves. **Most households report spending the majority of the transfer on food**, with a sizeable share of the remainder being used for other child-related expenditures (such as on health and clothing).

At endline we **continue to observe relatively small differences between how beneficiaries in high- and low-intensity communities have experienced the SBCC component.** Beneficiaries in each type of community report similar levels of access to the different channels, although those in high-intensity communities are indeed more likely to report having accessed high-level channels. **Since these differences are not stark, we pool the evidence from high- and low-intensity CDGP communities for most of the findings in this report. In non-CDGP communities, it is also common to find households that report having accessed SBCC channels,** although the likelihood of receiving a message through any given channel is always higher in CDGP communities.

4.1 Knowledge about the CDGP and access to payments

Table 4 presents results on women's and men's awareness of the CDGP in their community. In this table, we report results separately for the non-CDGP, low-intensity, and high-intensity groups, to see whether awareness differs across each type of community.[36] The table shows that knowledge of the CDGP remains extremely high at endline, with over 95% of women being aware

[35] This is in contrast to how our main findings are presented in the remainder of the report, where we do not show results separately for the high- and low- intensity communities

[36] In Volume II of this report, we show the tables in this section (4) again, presenting p-values associated with the difference between high- and low-intensity communities. Few of the differences are found to be significant.

of the programme in both kinds of CDGP community.[37] The qualitative midline report (Sharp and Cornelius, 2017, p. 18 ff.) describes how local authorities, including community volunteers (CVs) or religious and traditional leaders, have been effective at promoting awareness of the intervention.

Table 4: Programme awareness

	Midline – Endline			
		Non-CDGP	Low-intensity	High-intensity
	N	Mean	Mean	Mean
WOMEN				
Do you know of any programme operating in this village that gives regular payments of cash to pregnant women or women with young children, or their families? (%)				
Yes, there is such a programme in this community	4812	24.8	95.6	98.9
No, there is no such programme in this community	4812	74.6	4.2	1.0
Do not know if there is such a programme in this community	4812	0.6	0.2	0.1
% of women who recognise the CDGP by name	4812	3.4	28.0	34.4
% of women who are aware of the objectives of the CDGP, among women who are aware of the CDGP (*Better, more nutritious food for the baby and the mother.*)	3375	28.4	35.1	36.7
HUSBANDS				
Do you know of any programme operating in this village that gives regular payments of cash to pregnant women or women with young children, or their families? (%)				
Yes, there is such a programme in this community	3552	25.4	94.7	97.9
No, there is no such programme in this community	3552	73.0	4.8	1.6
Do not know if there is such a programme in this community	3552	1.6	0.5	0.5
% of husbands who recognise the CDGP by name	3552	4.0	21.8	20.7
% of husbands who are aware of the objectives of the CDGP, among husbands aware of the CDGP (*Better, more nutritious food for the baby and the mother.*)	2090	24.4	25.5	27.2

[37] We measure awareness using midline answers, and then for women who were unaware of the programme at midline we have updated their response if she reported being aware of the programme at endline.

Source: CDGP endline survey data. Notes:
1. The sample is all women surveyed in the baseline survey in 2014. We interviewed these women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The statistics reported here are based on answers to the survey questions at midline and endline, and pertain to the whole survey period. If the women were not interviewed at midline, or had not received CDGP transfers at midline, they were asked the same questions again at endline.
3. Mean = unweighted estimate of the mean.
4. HI-LI diff. = p-value of the difference between the mean in women residing in high- versus low-intensity villages.
5. Means, effects and differences are measured in percentage points for binary and categorical indicators.
6. The 'HI-LI diff.' is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the women (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Participation rates in the programme are also very high: as shown in Table 5 below, around 90% of women in both low- and high-intensity CDGP communities who were pregnant during the baseline ended up receiving transfers at some point between the baseline and the endline. This is important because, as discussed in Section 2.2, our main estimates of the effect of the CDGP are found by comparing the outcomes of women who were pregnant at baseline residing in CDGP communities to women who were pregnant at baseline residing in non-CDGP communities, *regardless of whether they actually received the programme or not* (this is the ITT effect we estimate throughout) If only a small proportion of women ended up getting cash payments then our estimates of the impact of the CDGP will provide underestimates of the effect of the programme. Altogether, the CDGP payroll data indicates that the programme was successful in reaching it's planned coverage of over 90,000 women across the two states[38], confirming that coverage of the programme has been widespread.

Possible reasons why the remaining 10% of women pregnant at baseline did not end up enrolling in the CDGP include: misreported pregnancy at baseline, miscarriages, giving birth between the baseline and CDGP registration, failing to register after birth, or unwillingness to participate.[39] The logistical challenges faced by the CDGP in meeting the demands of the programme roll-out schedule in the early months of implementation may also have led to some women who wanted to participate at baseline being unable to register. These delays were discussed in detail in the baseline process evaluation (Sharp, Visram, Bahety, and Kardan, 2016).

Table 5 shows participation rates in the CDGP split by state. At endline, we continue to find that participation rates are slightly higher in Jigawa than in Zamfara, for both high- and low-intensity communities. However, the differences in uptake between the states has narrowed since the midline. One possible explanation for this is the particular challenges experienced by the programme in Zamfara in the initial stages of programme roll-out, as discussed in the baseline process evaluation report (Sharp, Visram, Bahety, and Kardan, 2016), including initial staffing bottlenecks. It may also be linked to higher rates of insecurity in Zamfara State in recent years, as documented in the endline process evaluation (Visram, *et al.,* 2018), which has made implementation relatively more challenging in some parts of the state.[40]

Turning to the non-CDGP communities, we find that around 11% of women ended up receiving transfers between baseline and endline, with a slightly higher proportion of these residing in

[38] According to the CDGP payroll data accessed in autumn 2018, we find that 93,462 women are recorded as having received a payment from the CDGP, up to November 2018.
[39] In the quantitative midline report, we found that around 84% of women who reported being pregnant at baseline had participated in the programme. The additional women who reported having received CDGP transfers at endline are therefore likely to be those who did not ultimately end up receiving payments in respect of their baseline pregnancy, but became pregnant again at some point between the midline and endline surveys.
[40] For example, the endline process evaluation reports that the introduction of mobile cinemas to the SBCC strategy in 2017 had, at the time of the report being written, only resulted in activities being conducted in Jigawa, due to elevated security risks in Zamfara. The CDGP also has a policy of suspending payments in communities deemed to have a high risk of insecurity, which has disproportionately affected Zamfara in recent years.

Zamfara. One possible explanation for why some women in non-CDGP communities have reported receiving payments is due to a phenomenon known as 'cross-border registration', previously documented in both rounds of the process evaluation report (Sharp, Visram, Bahety, and Kardan, 2016, p. 29 ff.), as well as the qualitative midline (Sharp and Cornelius, 2017, p. 23 ff.). Cross-border registration refers to the situation where women resident in non-CDGP communities end up receiving payments from the programme due to fraud. They would then be interviewed at midline in their actual, non-CDGP, residence community.[41] Another possible reason could be the programme being rolled out in the wrong communities by mistake.

Table 5: Awareness and participation among women, by state

	Midline – Endline			
		Non-CDGP	Low-intensity	High-intensity
	N	Mean	Mean	Mean
% women aware of CDGP				
Overall	4812	24.8	95.6	98.9
Jigawa	2273	11.3	98.2	99.1
Zamfara	2539	36.0	92.9	98.8
% women who have ever received CDGP transfer				
Overall	3986	10.9	88.8	91.0
Jigawa	1963	6.6	93.6	94.4
Zamfara	2023	14.5	83.6	87.7
% women receiving CDGP transfers at midline				
Overall	4627	7.3	80.6	80.1
Jigawa	2171	5.7	88.6	87.8
Zamfara	2456	8.6	72.4	73.5
% women receiving CDGP transfers at endline				
Overall	4171	3.5	11.7	13.3
Jigawa	2065	2.0	10.2	14.0
Zamfara	2106	4.9	13.4	12.5

Source: CDGP midline and endline data. Notes:
1. The sample is all women surveyed in the baseline survey in 2014. We interviewed these women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The statistics reported here are based on answers to the survey questions at midline and endline, and pertain to the whole survey period. If the women were not interviewed at midline, or had not received CDGP transfers at midline, they were asked the same questions again at endline.
3. Mean = unweighted estimate of the mean.
4. HI-LI diff. = p-value of the difference between the mean in women residing in high- versus low-intensity villages.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators.
6. The 'HI-LI diff.' is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

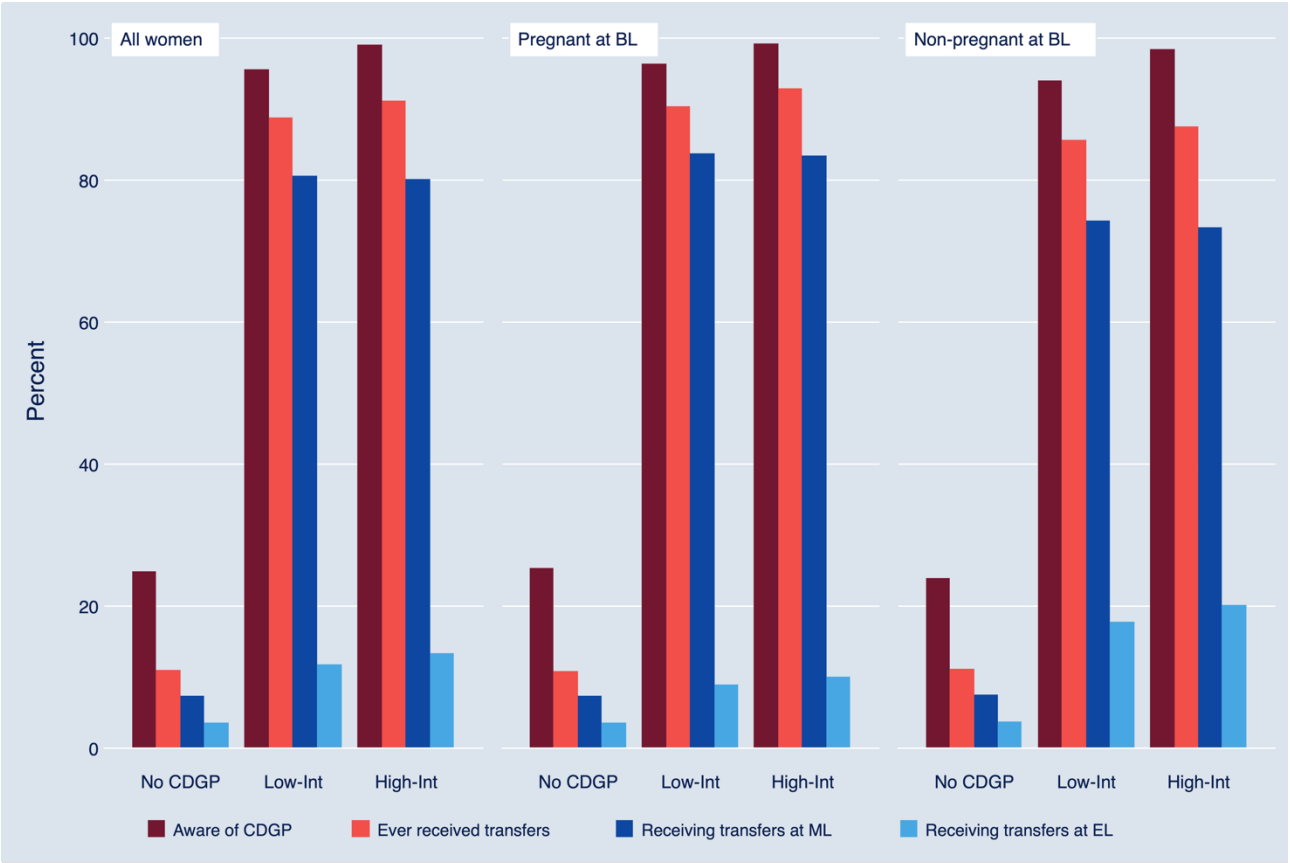
In Figure 14, we examine awareness and receipt of transfers across the different types of community. We also compare results for women who were pregnant at baseline with those who were not. This is a relevant distinction because it points to whether there have been changes in the implementation of CDGP over time. Women who were initially pregnant at baseline, on average, received the CDGP earlier on in its implementation than those who were not pregnant at baseline but became pregnant and received the programme later on. Differences between these two groups

[41] We find evidence for this in our own data. Women in non-CDGP communities that are less than 1 km away from the nearest CDGP community are four times more likely to have participated in the programme than those further away.

in how they have experienced the programme may therefore reflect changes in how it has been implemented over time.

Figure 14 shows that there are few differences in awareness of the CDGP or the proportion who have ever received a transfer throughout the duration of our study. Women who were pregnant at baseline were more likely to be receiving transfers at midline but are less likely to be receiving transfers at endline than those who were not pregnant at baseline. This is as expected, given that women who were initially pregnant at baseline would have received transfers earlier in the programme's implementation period than those who became pregnant later on. Overall, apart from these expected differences around the timing of pregnancy, there do not appear to be substantial differences in transfer receipt or awareness of the CDGP between these two groups of women.

Figure 14: Cash transfer participation rates



Source: CDGP baseline, midline, and endline survey data. Notes:
1. The sample is women interviewed during the baseline survey in 2014. We interviewed these women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Each bar represents the proportion of women in our sample who report being aware of the CDGP in their village, ever receiving transfers, and being recipients at the time of the midline and endline interviews, respectively.

Finally, we examine awareness of the CDGP's exit process in Table 6. The table shows that the majority of women are aware that CDGP payments should last until their child turns two years old.[42] However, among women who have ever received CDGP payments, awareness of how long the programme is expected to continue operating in their community as a whole is lower. At endline,[43] around 50% of respondents believe that the programme will be continuing during the next 12 months. Given that the programme in fact plans to end transfers to the initial CDGP communities in April 2019, this indicates that information about the programme's end has not yet

[42] This is consistent with the endline qualitative report, which finds that most respondents are aware of the programme's exit rules in theory (Sharp, Cornelius, and Gadhavi, 2018, p. 74).
[43] The endline survey was carried out from August to October 2018.

filtered down to many communities around six to eight months before this is due to happen. Among respondents who are aware of the programme's end, CVs appear to be the main source of information on this matter, with friends and family the second most important source of information.

Table 6: Awareness about CDGP exit

	Endline		
		Low-intensity	High-intensity
	N	Mean	Mean
Do you know for how long women in the programme receive benefits?			
Exact / appropriate answer (when child turns two)	2464	64.6	70.6
In the next 12 months, do you think the CDGP will be carrying on in this community, or will it be coming to an end?			
It will be continuing	2464	50.3	53.5
It is coming to an end	2464	28.4	26.6
It has already ended	2464	1.2	1.1
Don't know	2464	20.0	18.8
How did you hear about the programme coming to an end?			
From CVs	677	46.1	54.8
From friends or relatives	677	48.7	44.5
From other beneficiaries	677	4.9	6.4
Other	677	14.7	12.1
Can't remember how I heard about it	677	4.6	3.9

Source: CDGP midline data. Notes:
1. The sample is all women surveyed in the baseline survey in 2014 who report having received transfers by the endline interview.
2. Mean = unweighted estimate of the mean.
3. HI-LI diff. = p-value of the difference between the mean in women residing in high- versus low-intensity villages.
4. Means, effects, and differences are measured in percentage points for binary and categorical indicators.
5. The 'HI-LI diff.' is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

4.2 Timing of CDGP payments

In this section we examine the timing of the first CDGP payment and when beneficiaries exit the programme, in order to understand the average duration of the transfers. We start by looking at the timing of the first payment. As described in Section 1.1, CDGP was designed to target the first 1,000 days of a child's life, with payments due to begin during pregnancy. Eligibility for the CDGP payment therefore formally starts as soon as pregnancy can be confirmed.

The left-hand panel of Figure 15 illustrates the distribution of ages of the beneficiary's child at the time when the mother received her first payment. Zero corresponds to the month of delivery, so if the mother received the first payment five months before she gave birth, then the age shown would be -5 months. Figure 15 compares the two sub-samples of women: those who were pregnant during the baseline (red bars), and those who were not pregnant at baseline but became pregnant and received the programme later (blue bars).[44] As discussed above, we make this comparison because these two samples on average received the programme in different cohorts of implementation. Those in our main analysis sample, who were pregnant at baseline, would have

[44] Note that we have a larger sample size of women who were initially pregnant at baseline than we do of women who were not pregnant at baseline. This is why frequencies are higher for the red bars in our figure, as compared with the blue.

on average been exposed to the programme very early on in its roll-out, while the second sample would have received it later on. Comparisons between the two groups help indicate whether there have been changes in the average timing of beneficiaries' receiving their first payments, during the course of implementation.

First, we consider the timing of programme entry for women who were pregnant at baseline (red bars). The findings here mirror what has previously been reported in the quantitative midline: namely, that the CDGP faced some delays in the start of payments for many beneficiaries in this first cohort (Carneiro, Rasul, Moore, and Mason, 2017). While some women received the payment early in pregnancy and some only received it after delivery, on average mothers started receiving the grant around the eighth month of pregnancy, so very close to actual delivery. Some of the reasons for delays in starting payments have been discussed in the baseline process evaluation report (Sharp, Visram, Bahety, and Kardan, 2016). This may also be due to some women not coming forward to be tested for CDGP-eligibility until relatively late into their pregnancy.

Turning to women who were not pregnant at baseline (blue bars), we find that payments made to this sample when they did become eligible for the programme were on average disbursed a little earlier. The first payments were received in the sixth month of pregnancy on average. This points to some improvement in the programme's ability to register beneficiaries early. There is still some evidence of variation in timing, with some women reportedly only receiving payments at or after the time of delivery.

Figure 15: Age of child born after baseline, at first payment and exit

Source: CDGP midline and endline survey data, CDGP management information system. Notes:

1. The sample is women interviewed during the baseline survey in 2014. We interviewed these women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. In this figure we present the ages of the 'midline' child at the time when the index woman received her first payment from the CDGP. The midline child is a biological child of the index woman who was born after the baseline but before the midline period. This sample is restricted to only households that received CDGP transfers. We further restrict the sample of children to eliminate children who could not plausibly be the child for whom the household received their CDGP payments. We cannot directly observe the child for whom the CDGP was received; however, we estimate this by removing children whose date of birth is further from the date of registration in the CDGP transfer database than another child in the household. We also remove children who are recorded to have dates of birth that are more than three months before registration or 10 months afterward.
3. Each bar corresponds to a month of age, and the height of the bar represents the number of children estimated to be of that age on the date their mother received the first transfer, or exited the cash grant.
4. For age at first payment, red vertical lines highlight the pregnancy period (between -9 and 0). For age at exit, a vertical line highlights the age at which women exit the CDGP, and the cash transfer is discontinued (24 months).

We now turn to the timing of being exited from the programme. According to the CDGP's design, payments should end when the beneficiary's child turns 24 months of age. Figure 15 shows that there is also some evidence of variation in this, with some beneficiaries exiting the programme before their child turns 24 months, and others appearing to exit the programme several months afterward.

Early exits from the programme (before 24 months) may be explained by what is known by the CDGP as a 'premature' exit. The criteria for premature exits from CDGP are if the beneficiary suffers a miscarriage or stillbirth, if their child dies before reaching 24 months of age, if they

relocate to a non-CDGP community, or if they are later found to have not met the eligibility criteria in the first place (Sharp, Visram, Bahety, and Kardan, 2016). Aside from premature exits, the endline qualitative study also encountered some cases of women complaining that their payments ended early unexpectedly (Sharp, Cornelius, and Gadhavi, 2018). This may reflect some beneficiaries being removed from payments early in error.

Figure 15 also shows that there are some women who appear to have exited the programme after their child turns 24 months. The endline process evaluation report provides a possible explanation for this, detailing the difficulties faced by the CDGP in maintaining an accurate and up-to-date record of beneficiaries' children's birthdays (Visram, *et al*., 2018). This is not surprising in a context where so many births occur at home and it is not unusual for caregivers to be unsure of the date of birth of their child. However, the lack of access to a complete and accurate record of birth dates makes it difficult for the CDGP to exit all women at the intended time.

In interpreting Figure 15 it is important to point out that there may be measurement error in the ages reported. The figure shows some implausible ages: for example, with some payments inferred to have been received prior to the start of pregnancy (earlier than -9 months). Measurement error in ages means that the figure should be interpreted with some caution.[45]

In view of this, we examine this issue in a different way in Table 7, by focusing on the total number of payments received by beneficiaries. Firstly, we observe that the average number of payments received by the time of the endline is close to 24. This would make sense if, on average, women start to receive payments at around the time of delivery and these last until their child turns two.[46] To assess whether beneficiaries are remaining in the programme for longer than intended, we also look at the proportion who have received more than 30 transfer amounts. 30 transfers may be thought of as a rough upper limit on the number of payments that a beneficiary could receive under the CDGP, if she received her first payment from the beginning of her fourth month of pregnancy and payments lasted until her child turned 24 months. Of course, it is possible that beneficiaries may receive their first payment in the third month of pregnancy or earlier. This is considered to be relatively unlikely, as it relies on women having their pregnancies confirmed and completing the registration and enrolment process within a three-month window. According to the quantitative midline report, there is an average of 1.7 months between registration and the first payment (Carneiro, Rasul, Moore, and Mason, 2017).

Using this measure, we find that more than 20% of women who were pregnant at baseline have received more than 30 transfer instalments. This proportion is lower for those who were not pregnant at baseline, at 12.9% of women in the low-intensity group and 15.3% of women in the high-intensity group. This indicates that the CDGP was able to improve its ability to exit women on time for later cohorts of beneficiaries, though some delays in the timing of exit still remain.

[45] See Volume II Section 7.6.2 for more details on how we measure the age of children for the survey.
[46] There are some instances in which beneficiaries may receive multiple instalments from the CDGP in the same payment. This can occur if the beneficiary did not collect her payment in a given month, or if her community was not visited by the pay agent due to a security risk there. When this happens, beneficiaries are entitled to receive their missed payment the following month. The presence of these 'lumpy' payments may mean that the total number of distinct payments received under-estimates the number of transfer amounts she received. This is why we focus on 'months' worth' of payment in the following indicator, which splits lumpy payments into the number of separate instalments contained.

Table 7: Transfer intensity

	Endline		
		Low-intensity	High-intensity
	N	Mean (SD)	Mean (SD)
ALL WOMEN			
Number of transfers received	2637	23.8	23.1
		(6.0)	(6.2)
Proportion of women receiving more than 30 months' worth of payment	2637	20.3	18.7
Total transfer amount (purchasing power parity (PPP) USD, deflated to August 2014)†	2637	463.8	452.8
		(125.1)	(128.7)
WOMEN WHO WERE PREGNANT AT BASELINE			
Number of transfers received	1826	24.0	23.3
		(5.7)	(5.7)
Proportion of women receiving more than 30 months' worth of payment	1826	23.6	20.3
Total transfer amount (PPP USD, deflated to August 2014)†	1826	476.8	464.4
		(121.7)	(123.7)
WOMEN WHO WERE NOT PREGNANT AT BASELINE			
Number of transfers received	811	23.5	22.7
		(6.7)	(7.0)
Proportion of women receiving more than 30 months' worth of payment	810	12.9	15.2
Total transfer amount (PPP USD, deflated to August 2014)†	811	434.3	426.7
		(127.7)	(135.8)

Source: CDGP baseline, midline, and endline survey data, CDGP transfers database. Notes:

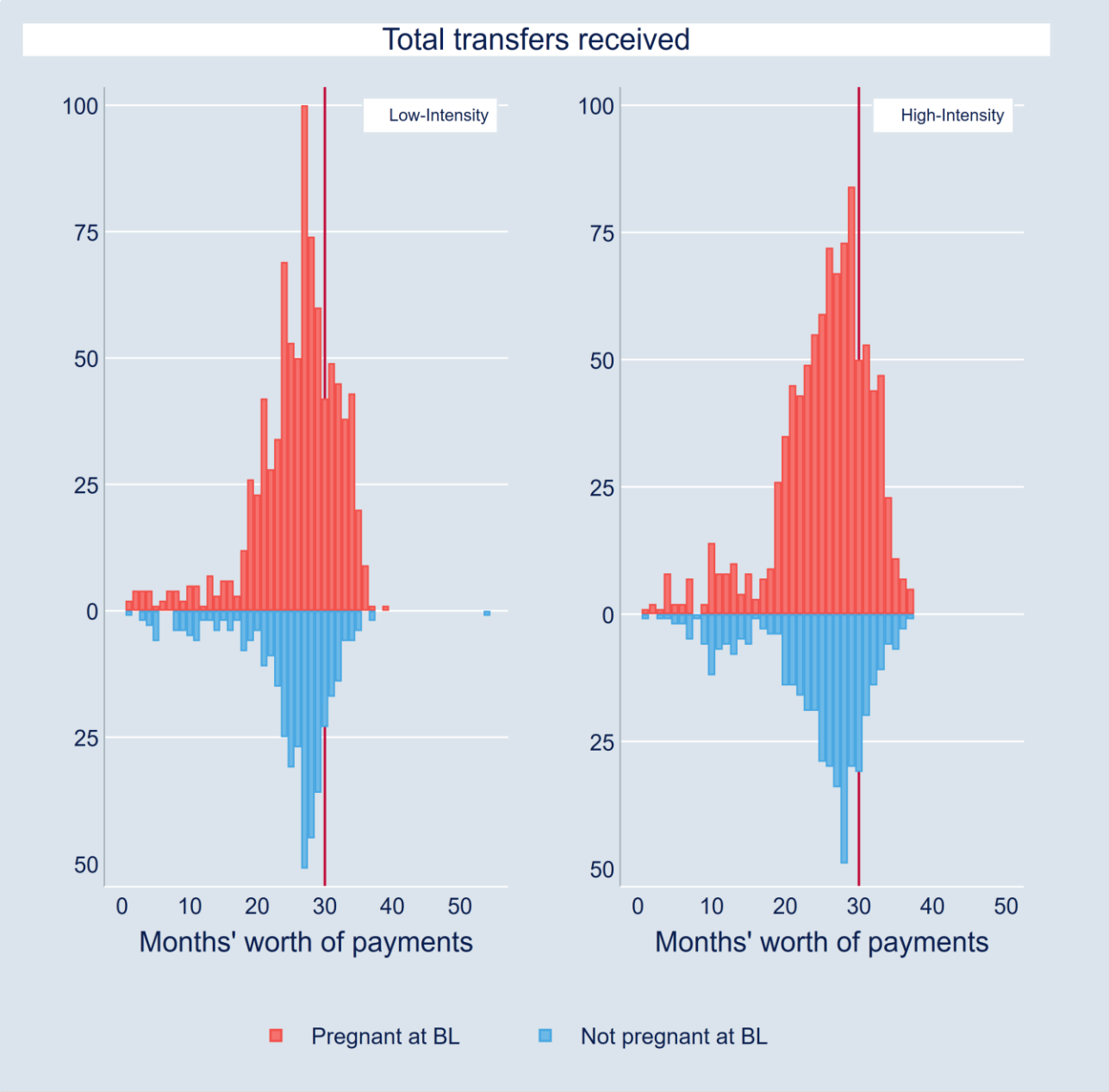
1. The sample is all women surveyed in the baseline survey in 2014, residing in low-intensity or high-intensity CDGP villages, who were receiving the CDGP transfer at midline or endline. We interviewed these women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Additional data are extracted from the CDGP transfers database. Around 95% of CDGP recipients in our survey sample are matched to the database using either their phone number or their name.
3. N = number of non-missing observations. Mean = unweighted estimate of the mean.
4. HI-LI diff. = p-value of the difference between the mean in women residing in high- versus low-intensity villages.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators.
6. The 'HI-LI diff.' is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report).

† CDGP transfers are adjusted for inflation, deflated to August 2014 (baseline survey) amounts using the Nigeria rural consumer price (rCPI) index. They are then converted to USD using the PPP index for 2014.

Finally, we examine the distribution of the number of transfer payments made to respondents, in order to see by how many months women do remain in the programme, if this is longer than 30. Figure 16 shows how many transfer amounts are recorded for each respondent in the CDGP's transfers database. This includes people who are still receiving payments, as well as those who have now exited the programme. The vertical line in the figure corresponds to 30 transfer amounts. Looking at this distribution, we observe that the majority of respondents who have received more than 30 payments have not received considerably more payments than this. There is little evidence of women who are greatly exceeding the number of payments we would expect. As discussed above, it is also possible that some women who have received more than 30 transfers (and up to 33), received payments very early in their pregnancies.

Thus, overall, we find that although the CDGP has not been able to process all mature exits reliably on the date of the child's second birthday, we also do not find that there are women remaining in the programme for many months beyond this.

Figure 16: Number of transfer amounts received



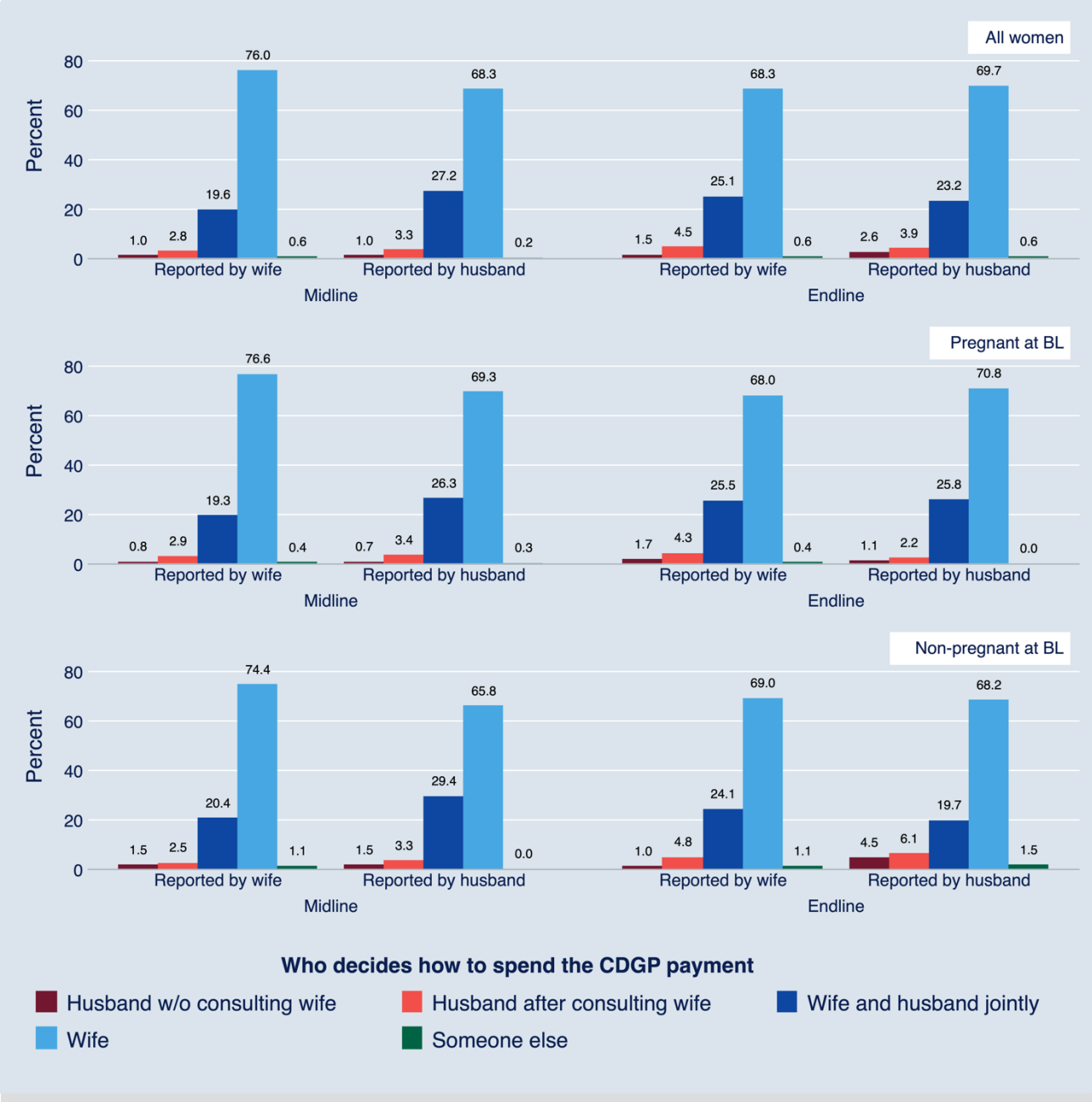
Source: CDGP transfers database. Notes:
1. The figure shows the number of transfer amounts received by recipients, as recorded on the CDGP payroll data.
2. This includes current recipients as well as those who have exited the programme. Where respondents received two or more transfer amounts in a single payment, we divided these into the separate transfer amounts of NGN 3,500 (before January 2017) and NGN 4,000 (afterward).
3. Each bar corresponds to a number of transfer amounts received, and the height of the bar represents the number of beneficiaries who have received that many payments according to the payroll.

4.3 Control over the CDGP cash transfer and use

In this section we consider who decides how the cash transfer is spent, and the uses to which it is put. Figure 17 illustrates the responses given to the question of who in the household has control over payments received from the CDGP. This was asked of both women and their husbands. Our

findings at endline are very similar to what we observed at midline: in the majority of households, women are reported to have control of deciding how the cash is spent. This is reported both by women and their husbands, and is the case across both states. This finding also closely mirrors the qualitative evidence on the CDGP: the fact that the woman is the primary beneficiary and is entitled to choose how to spend the grant seems to be widely accepted, including among men in the household (Sharp, Cornelius, and Gadhavi, 2018, p. 49).

Figure 17: Control over the CDGP cash transfer

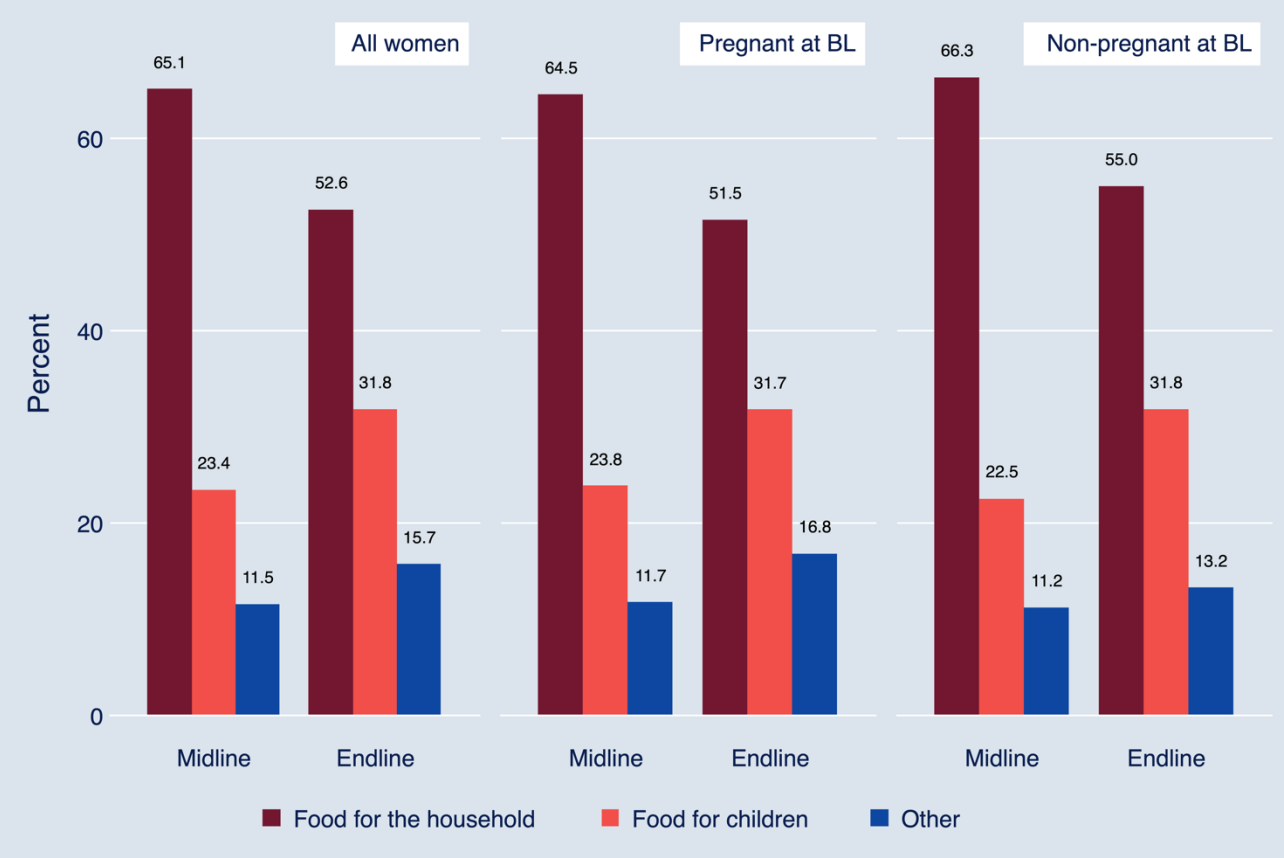


Source: CDGP baseline, midline, and endline survey data. Notes:
1. The sample is women interviewed during the baseline survey in 2014. We interviewed these women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Each bar represents the proportion of women and husbands reporting who decides how the CDGP monthly transfer is spent.

In terms of what the CDGP transfer is reportedly spent on, women report food (for the household in general, or for children in particular) as being the main use of the additional resources provided by the CDGP – see Figure 18. This pattern holds over the midline and at endline, and is similar between women pregnant at baseline and those not pregnant at baseline. Relative to the midline,

at endline women are more likely to state that the *main* use of the transfer is on food for the child, and they are less likely to list food for the household as the main use of the transfer.

Figure 18: Main use of last cash transfer (wife's report)

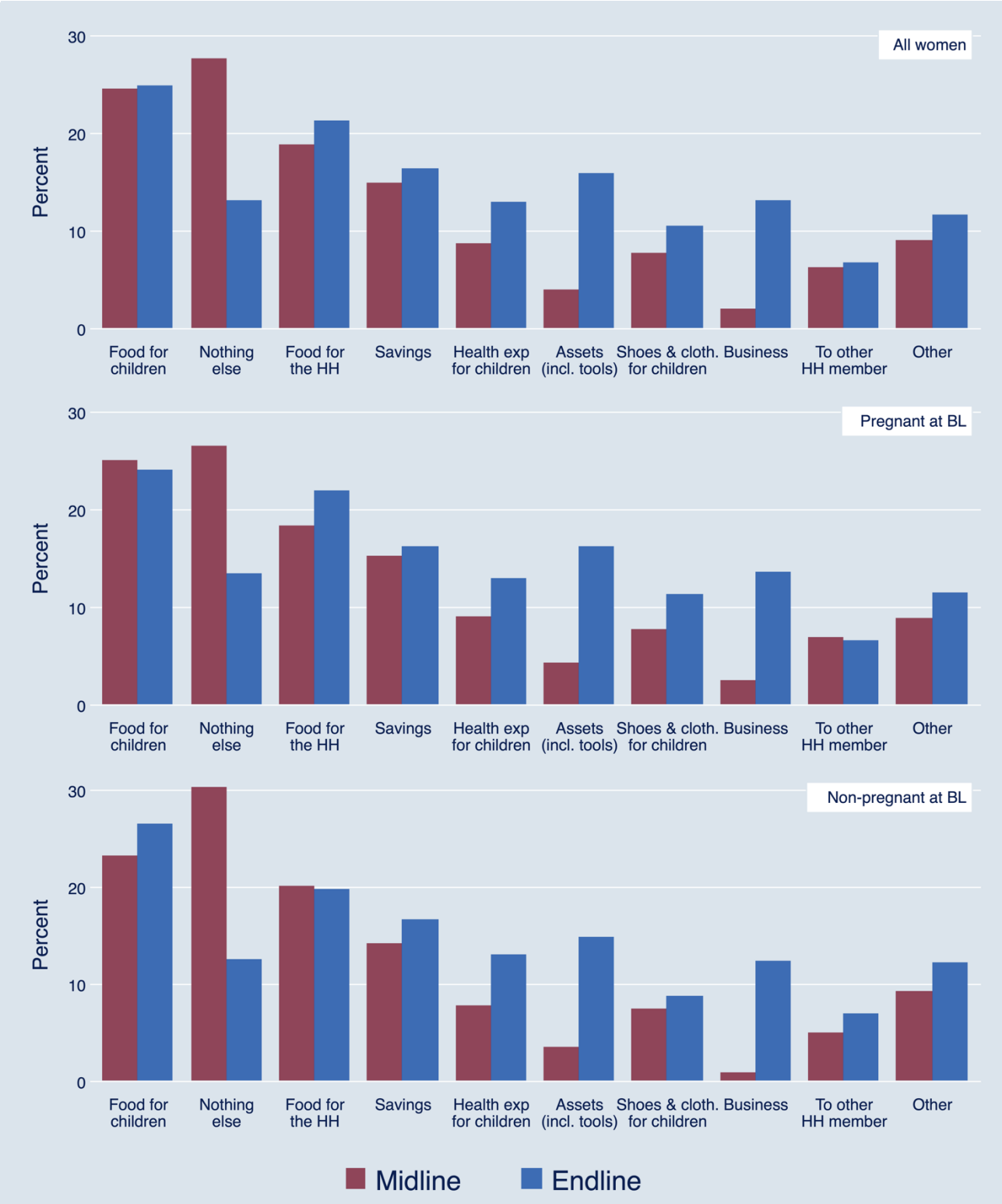


Source: CDGP baseline, midline, and endline survey data. Notes:
1. The sample is women interviewed during the baseline survey in 2014. We interviewed these women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Each bar represents the proportion of women in our sample who report spending the last transfer they received (before interview) on each category of items. 'Other' comprises: buying shoes and clothing for children; buying shoes and clothing for herself; paying back a loan; savings, including adashe (merry-go-round); education expenses (incl. school fees); health expenses for adults in the household; health expenses for children in the household; assets (including agricultural/ livestock tools and inputs); investing in her business; giving money to another household member; giving money to a non-household member.

In terms of other non-food items the CDGP payments are spent on, Figure 19 shows that a sizeable share of additional resources appear to be used for other child-related expenditures (such as health expenses and clothing). This is very much consistent with the qualitative midline report, where women were found to cite food for the household as the main destination of the grant, with prominent other uses being health expenditures and clothing/shoes for children (Sharp and Cornelius, 2017, p. 46 ff.). Other big categories include saving. Note that, at endline, we have modified the questionnaire to add a specific category for use of the grant for business purposes (whereas at midline we had derived this from the 'other use' category). The increase we observe in the use of the transfer for business expenses may be an artefact of this change. Regardless of whether such uses of cash were being undertaken at midline, these endline results hint at the possibility of the programme contributing to some more long-lasting changes to household livelihoods.[47]

[47] The possibility of longer-lasting processes of change in household livelihoods are also explored in the qualitative endline report (Sharp, Cornelius, and Gadhavi, 2018, p. 56)

Figure 19: What else the CDGP payment is spent on (wife's report)



Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women interviewed during the baseline survey in 2014. We interviewed these women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Each bar represents the proportion of women in our sample who report spending the last transfer they received (before interview) on each category of items.

4.4 Access to CDGP SBCC activities

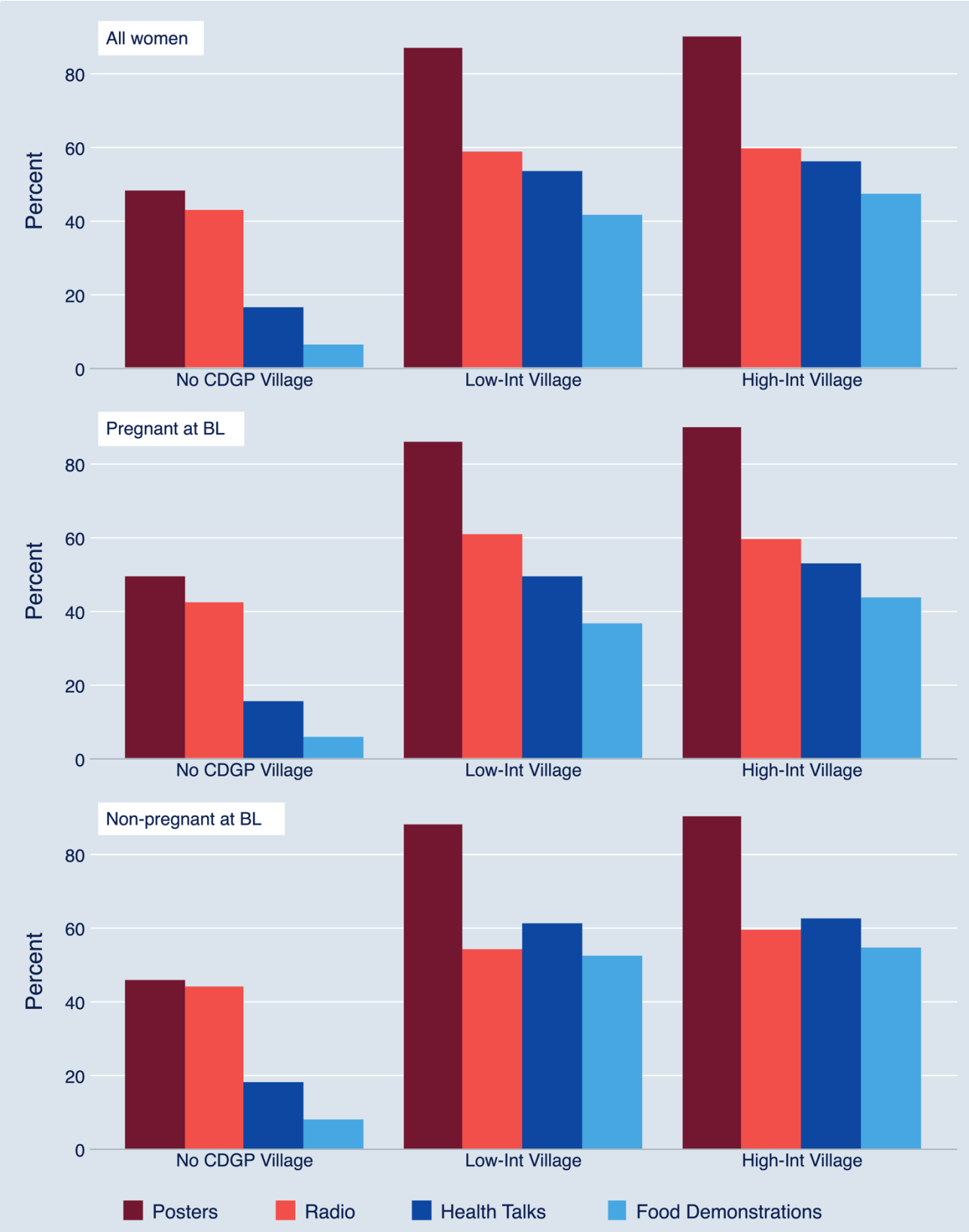
In addition to providing cash to women, the CDGP also provides nutrition advice, counselling, and mentoring to support the feeding and nutrition practices of pregnant women, infants, and young children. As discussed in Section 2.2, the CDGP communities were randomly split into two groups: the high-intensity SBCC communities and low-intensity SBCC communities. It was intended that the low-intensity SBCC communities would receive advice, counselling, and mentoring though posters, radio messaging, health talks, food demonstrations, and SMSs/calls, while the high-intensity communities would receive the same as the low-intensity ones and additionally have access to small group sessions and one-to-one counselling with the CDGP-trained volunteers.

Starting with the low-intensity SBCC channels, Figure 20 and Figure 21 show the channels through which SBCC messages were received by households at both midline and endline, reported separately for women and their husbands.[48] This shows the proportion of respondents who reported having accessed each channel in the 12 months prior to the survey. Overall access to low-intensity channels is found to be high in the CDGP-communities, with over 80% of women and husbands having been exposed to at least one channel. We find that at both midline and endline, the channel that is most frequently reported by women is posters, followed by food demonstrations.[49] For their husbands, the most frequent channels reported for information dissemination are the radio and posters. As expected, women are far more likely to attend health talks or food demonstrations than their husbands.

We also find that many households in non-CDGP communities report receiving messages through the low-intensity channels. This is not unexpected since the low-intensity SBCC activities are not targeted to individuals, and it is difficult to contain their exposure within defined village boundaries. However, the likelihood of receiving a message through any given channel is always higher in CDGP communities. This might indicate the presence of concurring information and advice programmes in non-CDGP communities. However, food demonstrations and health talks are only prevalent in the CDGP communities.

[48] Here we focus on channels that were in operation at both the midline and endline periods.
[49] The qualitative midline report also highlights the relative popularity of food demonstrations among SBCC activities (Sharp and Cornelius, 2017, p. 29). From our survey, we cannot directly assess whether the posters in question are actually the ones supplied by the CDGP, or if they are part of other information initiatives by the government or other NGOs.

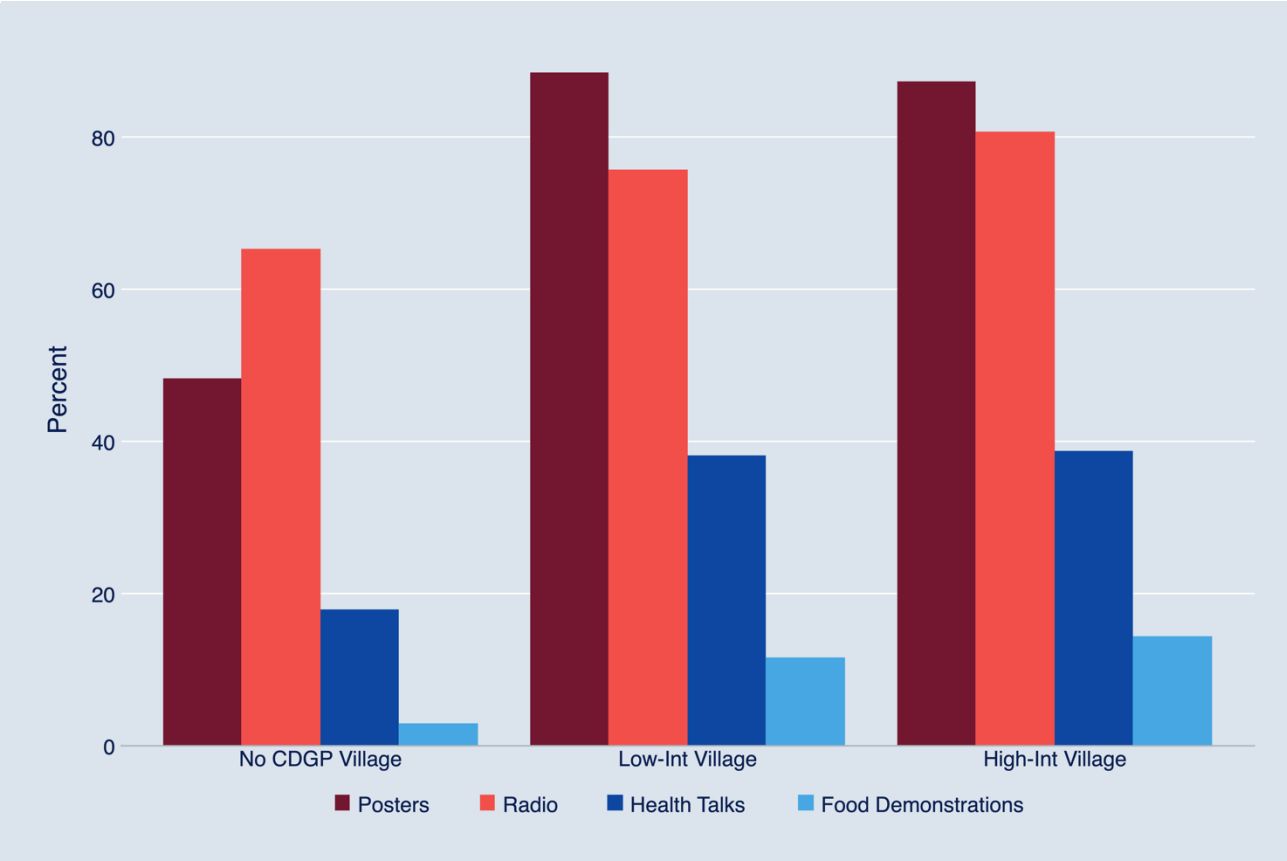
Figure 20: Exposure to low-intensity SBCC activities, women



Source: CDGP endline survey data. Notes:

1. The sample is women interviewed during the baseline survey in 2014. We interviewed these women and their husbands, and also asked questions about their children. At endline, we interviewed the same people.
2. Each bar represents the proportion of women in our sample who report being exposed to each of the low-intensity SBCC channels of CDGP in the 12 months prior to the endline survey.

Figure 21: Exposure to low-intensity SBCC activities, husbands



Source: CDGP endline survey data. Notes:

1. The sample is women interviewed during the baseline survey in 2014. We interviewed these women and their husbands, and also asked questions about their children. At endline, we interviewed the same people.
2. Each bar represents the proportion of husbands in our sample who report being exposed to each of the low-intensity SBCC channels of CDGP in the 12 months prior to the endline survey.

In Volume II of this report, we also show the same information split by state for women (see Figures 4 and 6 of Volume II) and their husbands (see Figures 5 and 7 of Volume II). This shows a very similar pattern of channels of information transmission across states, although the SBCC has reached a larger proportion of people in Jigawa as compared with Zamfara (particularly women and particularly through the food demonstrations and health talks). We also show in Volume II (Tables 27 and 26) that awareness of CVs is very high among respondents residing in CDGP communities, for both men and women. This widespread recognition of CVs, who are primarily responsible for the delivery of SBCC activities, is consistent the finding that the majority of men and women report having accessed at least one channel in the last 12 months.

Turning to the high-intensity channels, Figure 22 and Figure 23 below shows that around 47% of all women in high-intensity communities had accessed a support group meeting in the 12 months prior to the endline survey, and 35% had accessed a one-to-one counselling meeting. Access to these channels is higher among the sample of women who were not pregnant at baseline, which may reflect the fact that many women in the initial CDGP cohort who were pregnant at baseline have now exited the programme. In contrast to the low-intensity channels, few individuals in non-CDGP communities report having accessed these channels. This is as expected given the greater specificity of the targeting of high-intensity channels (which are intended to be accessed by beneficiary women only, rather than targeting the wider community).

A core finding of the midline quantitative report was limited differences in reported exposure to the high-intensity channels between respondents residing in high- and low-intensity communities. At

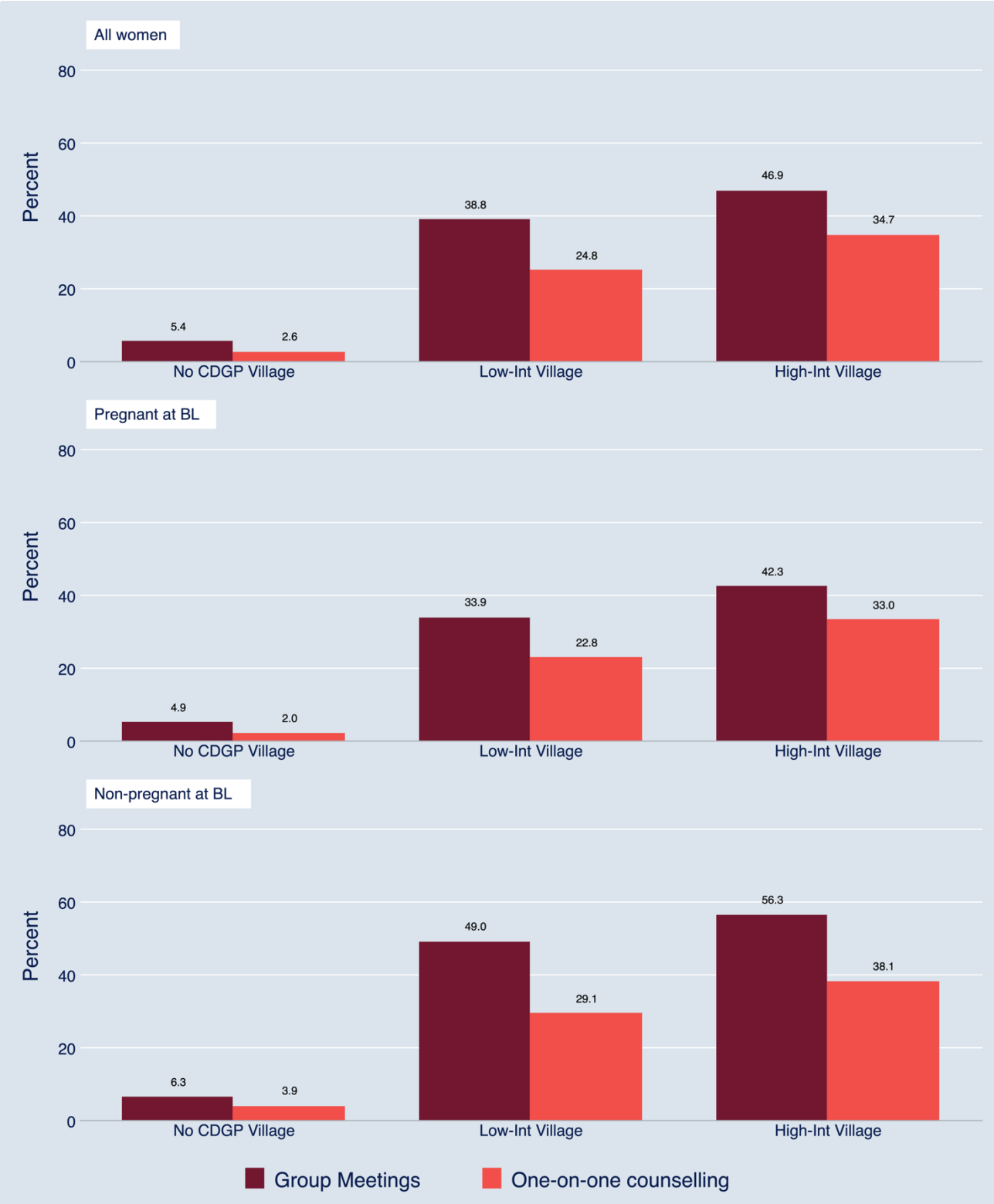
endline, this is still the case. We do always observe higher levels of access to high-intensity channel within high-intensity communities (and many of these differences are indeed statistically significant, as shown in Volume II of this report). However, these differences are not as pronounced as we would expect, given that high-intensity channels should not be available in low-intensity communities. In fact, we observe a difference of only 8 percentage points in the proportion of women who have accessed a support group in the past 12 months (47% of women in high-intensity communities, compared with 39% in low-intensity communities).

This is an important finding, but we cannot exactly determine the cause. One possibility is that the two versions of the programme have not been implemented as intended. This was a conclusion of the midline qualitative report, which found no systematic differences in implementation approach between the two types of community (Sharp and Cornelius, 2017, p. iv ff.). However, since the midline period we understand that the CDGP has undertaken additional safeguards to preserve the specificity of the two programme versions. This includes having separate trainings and monthly meetings for CVs that are responsible for SBCC implementation in the low- and high-intensity communities (Visram*, et al*., 2018). A second possibility is that there is no formal delivery of the high-intensity channels in low-intensity communities, but the apparent exposure that we see is driven by informal forms of engagement instead. We know that CVs are widely recognised members of the community. It is plausible that if CVs are well-known as people who are knowledgeable about health and nutrition issues, there could have been informal interactions within communities that resemble the high-intensity SBCC channels: for example, if respondents ever asked their CV a question individually when they met them in the community, or with a small group of other women. It may also be the case that respondents confused our survey questions about the high-intensity channels with other low-intensity SBCC channels or other programmes that may be available to them. Although we have revised the structure of questions at endline to try to improve their ability to reliably capture the high-intensity channels only,[50] this remains possible.

We therefore cannot say with certainty what has contributed to the similar reported levels of exposure to high-intensity channels across the Treatment 1 and Treatment 2 communities. However, this apparent similarity in experiences of the programme across communities means that, as at midline, our main evaluation findings will **pool the evidence from high- and low-intensity communities**. We do continue to analyse differences in impacts between the two types of community where these arise, and these are discussed in further detail in Annex D.

[50] In particular, we prefaced this section with an initial question to elicit respondent awareness of the presence of CVs working in their community for the CDGP. For respondents who were not aware of CVs (which was a minority of respondents, in CDGP communities), we did not ask about subsequent questions on access to the CDGP high-intensity channels to reduce the chance of respondents confusing other types of health services available in their community with the CDGP channels that we wanted to isolate. We also slightly revised the wording of questions to make them more specific, as well as adding a check question to see if the respondent knew who had organised the support group they reported having attended (so as to identify respondents who referred to meetings facilitated by other organisations apart from CVs and community health extension workers (CHEWs)).

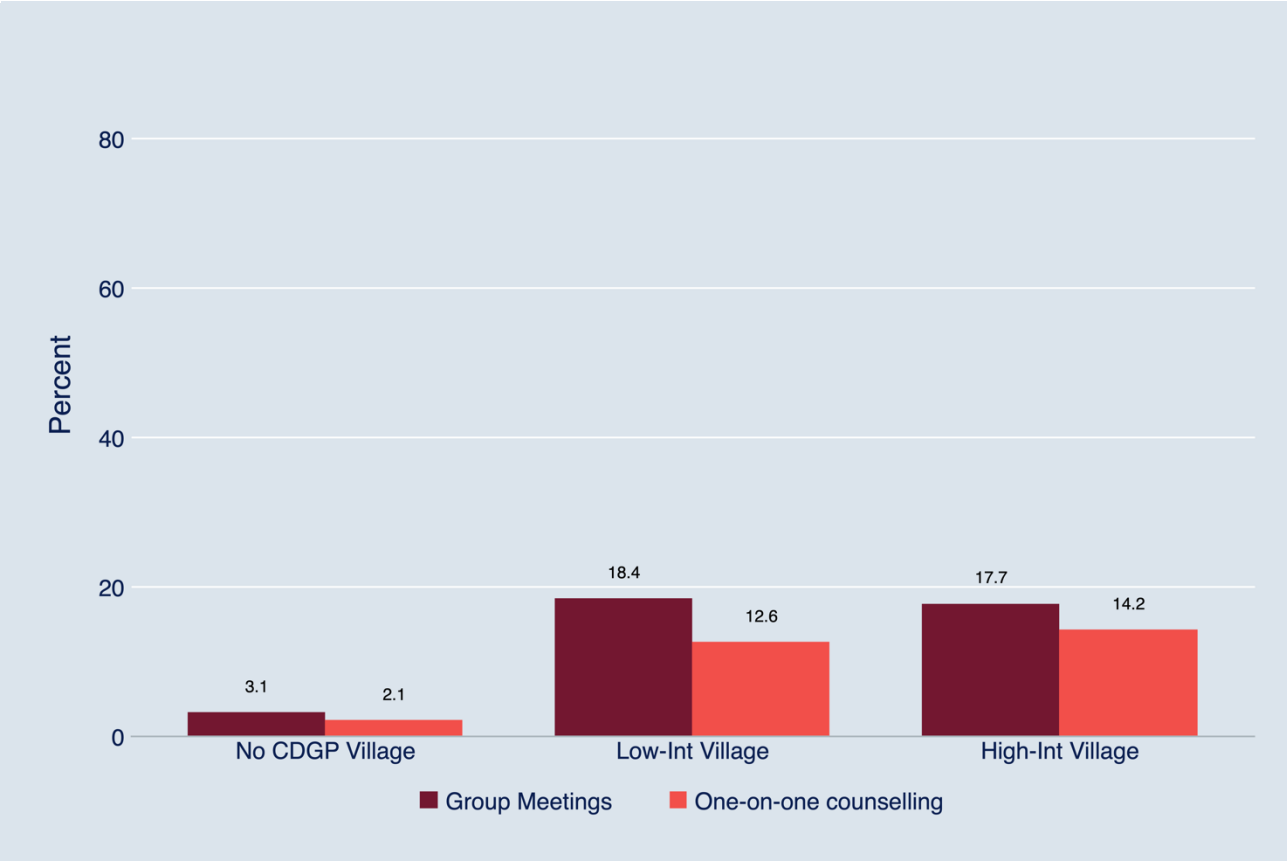
Figure 22: Exposure to high-intensity SBCC activities, women



Source: CDGP endline survey data. Notes:

1. The sample is women interviewed during the baseline survey in 2014. We interviewed these women and their husbands, and also asked questions about their children. At endline, we interviewed the same people.
2. Each bar represents the proportion of women in our sample who report being exposed to each of the high-intensity SBCC channels of the CDGP in the 12 months prior to the endline survey.

Figure 23: Exposure to high-intensity SBCC activities, husbands



Source: CDGP endline survey data. Notes:

1. The sample is women interviewed during the baseline survey in 2014. We interviewed these women and their husbands, and also asked questions about their children. At endline, we interviewed the same people.
2. Each bar represents the proportion of husbands in our sample who report being exposed to each of the high-intensity SBCC channels of CDGP in the 12 months prior to the endline survey.

4.5 Recall of SBCC key messages

The key messages that the SBCC was intended to communicate are shown in the box below.

Box 3: Key SBCC messages

KM1: EXCLUSIVE BREASTFEEDING

Breastfeed child exclusively until child is six months old. Do not give water, tinned milk, or any other food.

KM2: BREASTFEED IMMEDIATELY AFTER GIVING BIRTH

Start breastfeeding your baby within the first 30 minutes after delivery.

KM3: COMPLEMENTARY FOODS AND BREASTFEEDING

Introduce complementary foods at six months of age while continuing to breastfeed. Breastfeed on demand and continue until two years of age.

KM4: HYGIENE AND SANITATION

Wash your hands after going to the toilet, cleaning baby who has defecated, and before and after feeding baby; wash baby's hands and face before feeding baby.

KM5: USE HEALTH FACILITIES

Take baby to health facility if you notice any of the following: fever, convulsion, refusing to eat, malnutrition, or diarrhoea

KM6: ATTEND ANC

KM7: EAT ONE ADDITIONAL MEAL DURING PREGNANCY

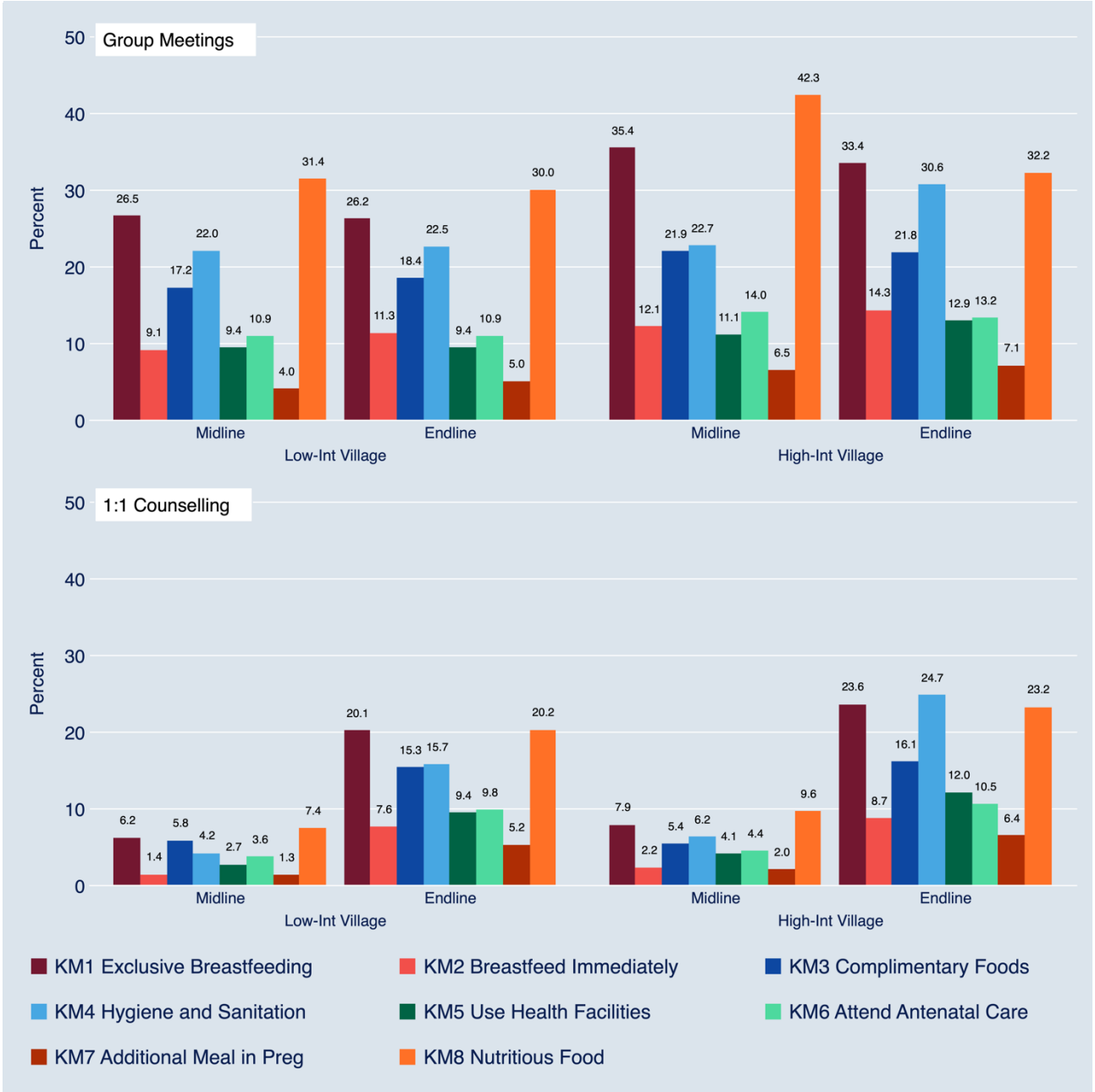
KM8: NUTRITIOUS FOOD

Ensure you buy nutritious foods when you are buying food for your family

Figure 24 summarises what messages are actually recalled by respondents who report accessing high-intensity SBCC channels. We see that messages related to exclusive breastfeeding and eating nutritious foods are recalled across both channels, and in many cases these messages are better recalled at endline than they were at midline. At endline, we also find that there is somewhat better recall of messages about hygiene and sanitation (particularly through the one-to-one counselling channel). This is consistent with the findings of the qualitative endline report (Sharp, Cornelius, and Gadhavi, 2018, p. 41), which found evidence of widespread adoption and understanding of hygiene and sanitation messages, since the recommended practices (such as hand-washing) are regarded by many as virtually cost-free and considered to be among the most sustainable changes introduced by the CDGP.

Figure 25 shows that, for men, there is a more uniform recall of the different messages through each channel. Again, recall of massages seems to be generally better at endline compared with midline. The three most commonly recalled messages by husbands are about breastfeeding, hygiene and sanitation, and eating nutritious foods. Indeed, the messages recalled from the one-to-one counselling have risen quite a lot across the board at endline, as shown in the lower panel of Figure 24. This might suggest the better implementation of such intensive counselling over time.

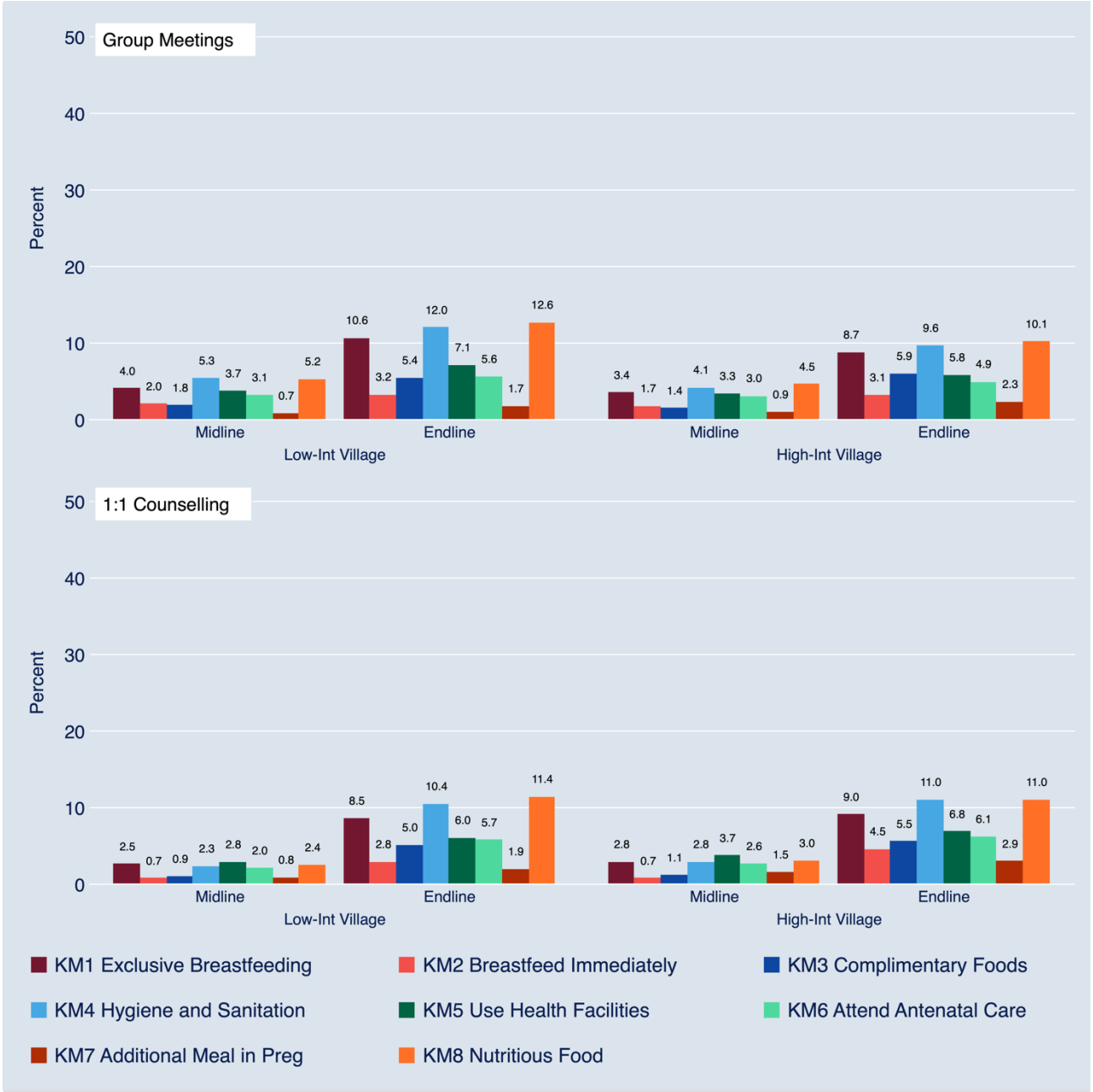
Figure 24: SBCC key messages, reported by wife



Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women interviewed during the baseline survey in 2014. We interviewed these women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Each bar represents the proportion of husbands in our sample who report being exposed to each of the low-intensity SBCC channels of CDGP in the 12 months prior to the midline and endline surveys.

Figure 25: SBCC key messages, reported by husband



Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women interviewed during the baseline survey in 2014. We interviewed these women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Each bar represents the proportion of husbands in our sample who report being exposed to each of the low-intensity SBCC channels of CDGP in the 12 months prior to the midline and endline surveys.

5 Impact of the CDGP on household income and livelihoods

Key findings

The CDGP has **increased the likelihood that women are engaged in work activities** at endline, and the magnitude of this impact has even increased slightly since midline. We also find that the CDGP has **stimulated investment in business activities undertaken by women,** with significant positive impacts observed on both the revenues of businesses that women are engaged in and their expenditures for that business activity. However, there is no impact on their overall profit from business activities. **For their husbands, there is no impact on the likelihood of being engaged in work activities or their income from work**. This was also the case at midline, and partly reflects the fact that almost all men are already working. Despite the increases in women's participation in work activities, there is **no impact on the combined income of women and their husbands** at endline.

Very few women cultivate any land, though we find a small impact on the proportion that do. There is no impact on the proportion of men cultivating any land, as the majority of men are already doing this. In terms of livestock ownership, the CDGP has had a positive impact on the proportion of women who own **any animals themselves**. The magnitude of this impact has increased since midline. The programme has also led to **positive impacts on the proportion of households owning any animals and those that bought or sold any animals in the past 12 months**. These results are consistent with the qualitative endline report, which finds that the CDGP has enabled some beneficiaries to invest part of their transfers in productive assets, such as livestock.

The CDGP has **reduced the proportion of households where any member is borrowing from any source**, as well as the amounts of money borrowed. This impact was not observed at midline. This may indicate that the accumulation of the transfer over time has allowed households to reduce reliance on borrowed funds to help them cope during times of need. Finally, we find **strong impacts of the CDGP on the proportion of households with savings**, as well as a **pronounced impact on the total value of savings** (including both cash and in-kind savings). These **impacts are greater than those observed at midline**.

5.1 Work activities

Table 8 shows the impact of the CDGP on livelihoods and business activities for men and women. Starting with women's livelihoods, we find a positive impact of the CDGP on women's engagement in work activities[51] of more than 10 percentage points. 81% of women residing in non-CDGP communities reported having undertaken a work activity in the 12 months preceding the survey, compared with 92% in CDGP communities.

The magnitude of the impact on women's participation in work activities is larger than the impact we found at midline (which was around 6 percentage points)[52]. This suggests the effect of the CDGP in supporting women to get into work persists even after transfers end. The increase we find in women's work participation is consistent with the midline qualitative results, where women reported that access to the CDGP transfers had helped relieve the pressure of short-term

[51] We define women's work as any paid or unpaid work activity other than housework and childcare.
[52] Recall that the column titled 'ML-EL diff' reports the p-value associated with a hypothesis test on the difference between impacts observed at midline and endline. A p-value of 0.05 or less means that the magnitude of the impact observed at endline is different from what we first observed at midline, with 95% significance.

concerns. This enabled greater investment of time and resources in business activities, especially petty trading and preparation and sale of snacks (Sharp and Cornelius, 2017, p. vi).

We turn now to income earned from work activities. Table 8 reports on two forms of women's income from livelihoods activities; income earned from paid labour activities and revenue earned from business activities (self-employment)[53]. The table shows that the CDGP has had a significant positive impact on average business revenues of almost NGN 3,000, but no impact on income from paid employment activities. This is consistent with the types of activity that women undertake in this setting, where paid employment opportunities for women are rare and engagement in small business activities is far more common. Volume II of this report illustrates the types of livelihood activities undertaken by women in our sample (see Table 41), indicating that the most common activities are those relating to petty trading and livestock. Altogether, the results indicate has been an increase in women's participation in work caused by the CDGP, which is primarily driven by increases in self-employment activities rather than paid employment activities. This in turn leads to increases in average business revenues, but without any changes in average income from paid labour.

Table 8 also shows that CDGP has had a significant impact on business expenditures for women, indicating increased investment in their self-employment activities. However, the combination of increased revenue and expenditure into businesses for women translate into no overall impact on profits from women's businesses.

The results on women's incomes are more a bit smaller than those reported at the time of the midline survey, despite the fact that a sizeable impact on women's participation in work activities remains. At the time of the midline, we found evidence of an increase in women's income from livelihoods activities, of around 20% of the baseline level (Carneiro, Rasul, Moore, and Mason, 2017, p. 47). We do not display these midline results on in Table 8 because we adjusted the way we measured income in the endline survey, so the income results at midline and endline cannot be directly compared[54]. It may be that methodological differences in how income was captured between the two rounds of the survey are part of the explanation for the less positive results on women's income at endline. There are also a number of challenges associated with measuring income well through a survey instrument, in a context such as the CDGP LGAs, where incomes and income generating activities may fluctuate over the course of the year. There is likely to be a certain degree of measurement error associated with accurately capturing incomes of households in this context, which should be considered when interpreting these results.

For men, CDGP has not had an impact on the likelihood of working at either midline or endline – a finding that is not surprising given that almost all men were working already. There is also no impact on men's earnings from paid labour. However, we do find a small and weakly significant impact on monthly business profits reported by men. This is consistent with the findings of the qualitative midline report, where many husbands stated that they were able to re-invest more of their own income and time in their activities – or toward new livelihood activities – once the pressure of having to provide money to pay for food for the household had been somewhat

[53] Note that incomes in are reported over the whole sample, including respondents who don't work or have unpaid work activities, as well as those with paid work activities.

[54] The changes to the questionnaire introduced at endline were made to try and capture more subtle aspects of income-generating activities. For activities such as petty trading and small self-operated artisanal activities, we asked about the cost of inputs and sales revenue directly. This is different to the way we measure income from paid labour, which asks about the last payment received from work, and was a new introduction to the endline survey relative to midline. Total earnings are then constructed by summing payments and profits (for self-employed work)

relieved. Additionally, some of the beneficiary women may give a proportion of their income to their husband for this purpose (Sharp and Cornelius, 2017).

When we add up earnings across women and their husbands, we do not observe any impact on average combined earnings. This indicates that the increased revenue from women's businesses that we see has not been able to translate into an overall sustainable increase in combined earnings. This is also not surprising, since women's incomes make up a small proportion of overall household income.

In Volume II, we provide more detail on the nature of work activities conducted by men and women, and their frequency. In terms of the types of activity undertaken by women, we find that the CDGP has particularly had an impact on the proportion who are engaged in petty trading (examples of which include the preparation of snacks and cooked foods), with a 5.9 percentage point increase in women engaged in this activity at midline, and an 11.4 increase at endline.

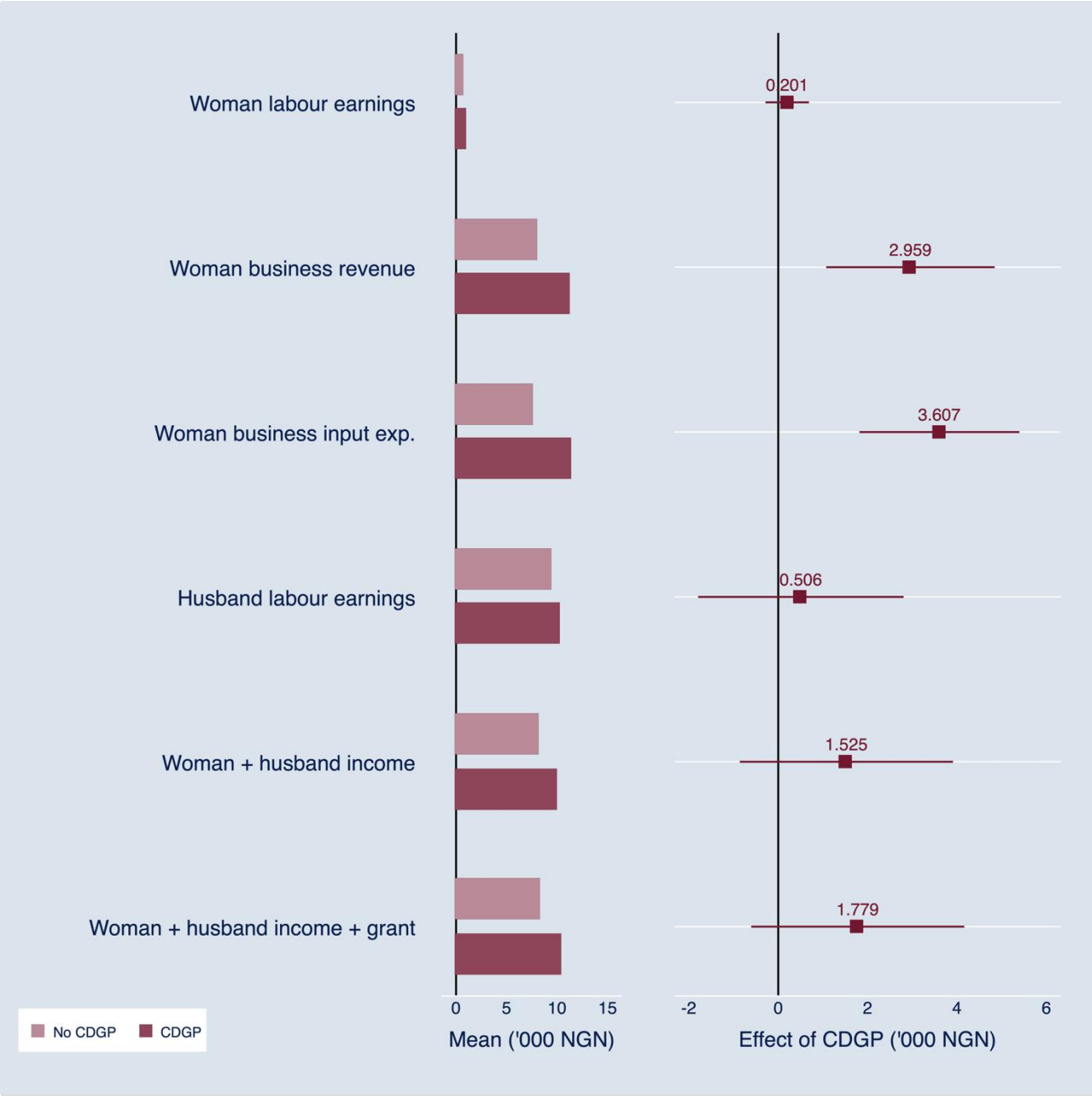
Table 8: Work activities

	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP Effect (SE)	p-value
Woman's report							
% women with any paid or unpaid work in the past 12 months†	3118	76.6	6.19***	2807	80.7	10.76***	0.05
			(1.88)			(1.57)	
Total monthly earnings from paid labour, NGN††				2802	829.3	140.22	
					(5623.4)	(237.79)	
Monthly revenue from business activities, NGN†††				2781	8094.8	2958.65***	
					(17715.1)	(961.61)	
Monthly expenditure for business inputs, NGN†††				2782	7723.9	3606.57***	
					(16882.0)	(912.88)	
Monthly business profit (revenue net of input cost), NGN†††				2771	268.3	-154.93	
					(10652.6)	(563.89)	
Husband's report							
% husbands with paid or unpaid work in the past 12 months†	3138	99.6	0.28	2766	99.6	0.31	0.94
			(0.21)			(0.22)	
Total monthly earnings from paid labour, NGN††				2335	9554.0	203.06	
					(22452.5)	(1191.18)	
Monthly revenue from business activities, NGN†††				2677	5814.9	991.95	
					(19044.0)	(834.30)	
Monthly expenditure for business inputs, NGN†††				2655	5592.4	-126.21	
					(19380.2)	(876.34)	
Monthly business profit (revenue net of input cost), NGN†††				2629	25.6	1088.59*	
					(12247.0)	(653.17)	
Combined woman and husband							
Total woman and husband earnings and profit, NGN				2780	8260.2	1381.08	
					(25239.4)	(1230.93)	
Total woman and husband earnings and profit + CDGP grant, NGN††††				2780	8399.3	1637.88	
					(25262.8)	(1230.94)	

Source: CDGP baseline, midline, and endline survey data. Notes: †Excluding housework and childcare. ††Derived by summing earning across all work activities that are carried out for pay. Values above the 99th percentile are converted to missing values. This includes zeros for subjects who report no paid activities. †††Derived by summing revenues and expenditures across all business activities. This includes zeros for subjects who report no business activities. ††††Derived by summing labour revenues and business profits for the woman and the husband (if there is a husband in the household), and adding the cash grant for households reporting currently receiving it.

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. ML-EL diff. = p-value of the difference between the effect at midline and at endline.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'ML-EL diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Figure 26: Effect of the CDGP on incomes at endline



Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant woman and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The left panel shows unweighted estimates of mean levels in non-CDGP and CDGP communities, by wave. The right panel shows the effect of the CDGP, where the number and square are the point estimates and the line is the 95% confidence interval. The effect is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the vertical line*. The line indicates zero effect.
3. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.

5.2 Land cultivation

An extremely high proportion of households are engaged in land cultivation activities across the CDGP LGAs, though this is predominantly done by men and is rare for women. In Table 9 we show that the CDGP has a small and weakly significant impact of around 1 percentage point on the

proportion of women that are engaged in land cultivation. We also find an impact on the value of crop sales for women in CDGP households. The magnitude of this impact has more than doubled between midline and endline. However, the proportion of women engaging in land cultivation activities remains very low. For their husbands, we find no impact on the likelihood of cultivating land or on the value of crop sales.

The qualitative midline found that, due to CDGP transfers, some husbands were able to spend more time on their own farms because they did not have to engage in stop-gap activities or labour migration to meet the short-term income needs of the household, and that this had led to increased farm production and more food stocks for the year. Households' grain stocks from their own production last longer, because of reduced pressure to sell the harvest to meet monetary needs. This could be one important impact of the CDGP, to provide a steadier flow of income to households over time. This suggests that husbands may have been producing more but selling around the same amount. While we do not have evidence of the amount produced, and so are unable to fully verify this, we do see that there is no difference in husband's crop sales between CDGP and non-CDGP communities. The qualitative endline report also noted that some beneficiaries had given part of the transfer to their husbands, for investment in farming (Sharp, Cornelius, and Gadhavi, 2018, p. 53).

In Volume II, we provide further details on inputs used for land cultivation. We do not observe an impact of the CDGP on expenditure on seeds, fertiliser, tools, machinery, animals, and farm labour.

Table 9: Land cultivation

	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP Effect (SE)	p-value
Women							
% women cultivating any land in past 12 months	3113	5.0	0.51	2807	1.7	1.37*	0.45
			(1.09)			(0.73)	
Crop sales in past 12 months, NGN‡	3113	154.6	302.55**	2807	106.2	809.03*	0.29
		(2047.6)	(126.81)		(1661.5)	(461.59)	
Husbands							
% husbands cultivating any land in past 12 months	3139	96.5	-0.86	2766	97.7	0.71	0.12
			(0.89)			(0.65)	
Crop sales in past 12 months, '000 NGN‡	2877	1193.8	-1083.96	2618	102.0	1156.47	0.15
		(33021.5)	(1138.76)		(361.2)	(1052.17)	

Source: CDGP baseline, midline, and endline survey data. Notes: ‡Values above the 99th percentile are converted to missing values. The value is zero if there were no sales in the past 12 months.

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. ML-EL diff. = p-value of the difference between the effect at midline and at endline.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'ML-EL diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

5.3 Animal ownership

Table 10 shows that the CDGP has led to a significant impacts on livestock ownership. We find an impact of nearly 5 percentage points on the proportion of households owning any animal, which is 89% of households in non-CDGP communities and 94% of households in CDGP communities. We also observe an impact of around 12 percentage points on the proportion of women owning any animal themselves, as well as impacts on the proportion of households that have bought or sold animals in the 12 months preceding the survey. These findings are consistent with the qualitative endline report, which found that many households had managed to save part of their cash transfer and some were using these savings to invest in durable assets, such as small livestock, to increase their resilience to future shocks (Sharp, Cornelius, and Gadhavi, 2018).

Table 10 also shows that the impacts of the CDGP relating to livestock are greater at endline than we observed at midline. At midline, we found a significant impact in the proportion of women owning any animals themselves, but no overall impact on the households' animals or livestock ownership and purchasing in the past 12 months.

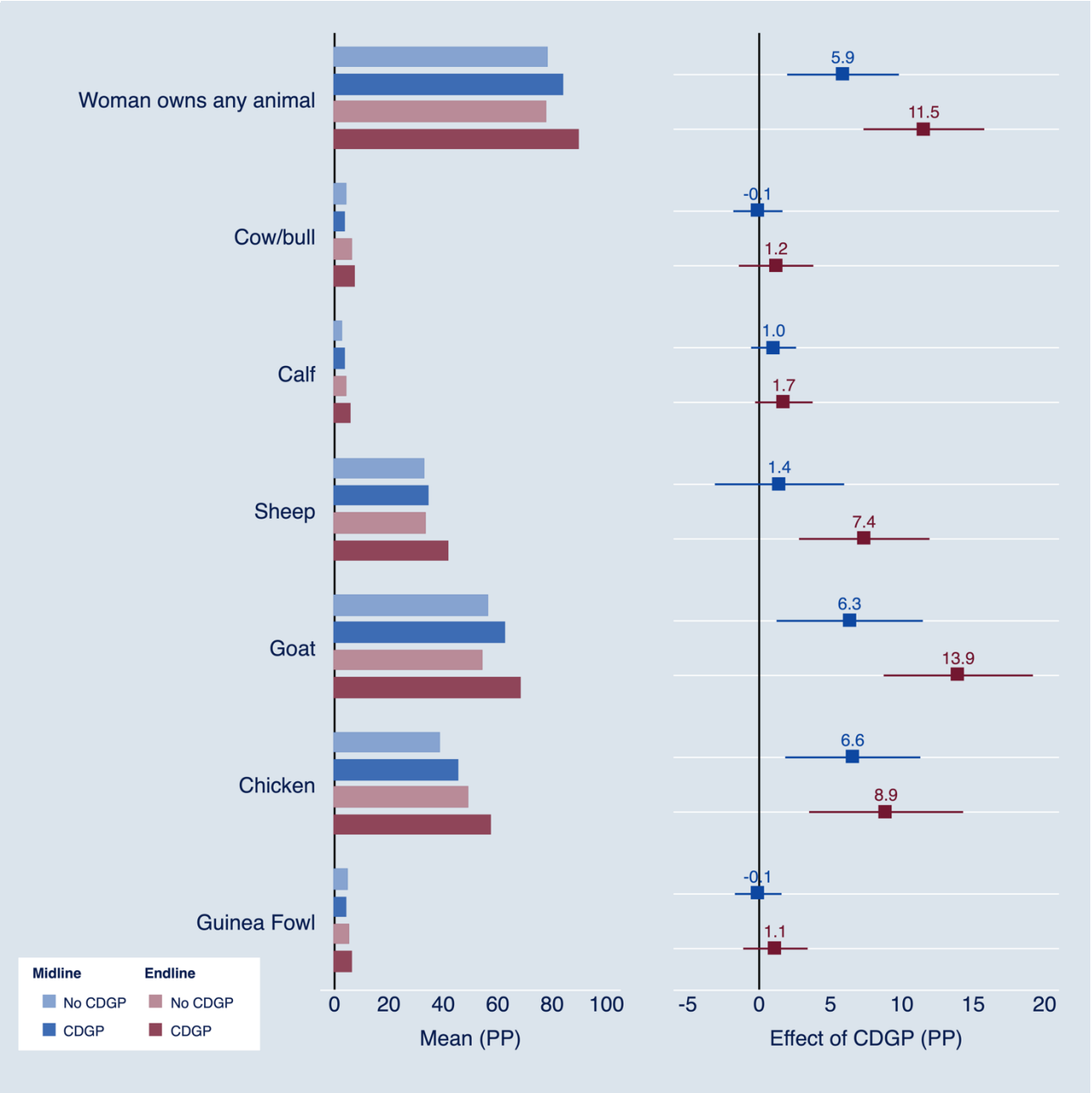
Figure 27 highlights that the form in which these owned animals appear are chickens, sheep, and goats, which might provide a form of liquid asset, rather than larger-scale productive animals, such as a cow or bull. In Volume II, we provide further details on purchases and sales of livestock by livestock type.

Table 10: Household livestock

	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)	p-value
% of households owning any animal	3222	89.8	-0.06	2849	89.4	4.73***	0.01
			(1.39)			(1.56)	
% of households that purchased any animal in the past 12 months	3222	50.6	2.57	2849	41.1	9.29***	0.05
			(2.33)			(2.58)	
% of households that sold any animal in the past 12 months	3222	45.5	-1.39	2849	49.7	4.65**	0.04
			(2.06)			(2.34)	
% of women owning any animal themselves	3118	78.3	5.94***	2807	78.2	11.60***	0.01
			(2.00)			(2.15)	

Source: CDGP baseline, midline, and endline survey data. Notes:
1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. ML-EL diff. = p-value of the difference between the effect at midline and at endline.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'ML-EL diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Figure 27: Effect of the CDGP on women's livestock ownership



Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant woman and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The left panel shows unweighted estimates of mean levels in non-CDGP and CDGP communities, by wave. The right panel shows the effect of the CDGP, where the number and square are the point estimates and the line is the 95% confidence interval. The effect is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the vertical line*. The line indicates zero effect.
3. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.

5.4 Household savings, borrowing, and lending

This section reports on the impacts of the CDGP on household saving, borrowing, and lending. At midline, there was little impact of the CDGP on household borrowing. We found no impact on whether the household had a loan, but a small and only weakly significant decrease in the value of current loans. Table 11 shows that by endline we now find a significant reduction in the proportion

of households that are borrowing, as well as a reduction in the value of loans. This may indicate that the accumulation of the transfer over time has allowed households to reduce reliance on borrowed funds to help them cope during times of need. The qualitative endline report provides some support for this theory, finding that there were households receiving the CDGP that had used the transfer to increase savings and investments, in order to help them manage risks and shocks at the household level (Sharp, Cornelius, and Gadhavi, 2018, p. 66). We find no significant differences in the proportion of households who have tried to borrow money in the past 12 months but been unable to. At midline, we had observed a weakly significant impact of the CDGP on reducing the proportion of households providing loans to other households, but this effect has dissipated by endline.

As seen in Table 11 and Figure 28, borrowing from family and friends is by far the most common source of loans, with around 30% of households doing such borrowing, followed by shopping on credit. CDGP households are 7.3 percentage points less likely to be borrowing from family and friends at endline (the corresponding figure is 6.2 percentage points at midline). At midline they were less likely to have been turned down when asking for a loan from family or friends (but this is not sustained at endline). Notice also that, at endline, CDGP household are less likely to shop on credit than non-CDGP households (although this might partly be a survey artifice, as respondents were asked separately about shopping on credit for food and for non-food items at endline).

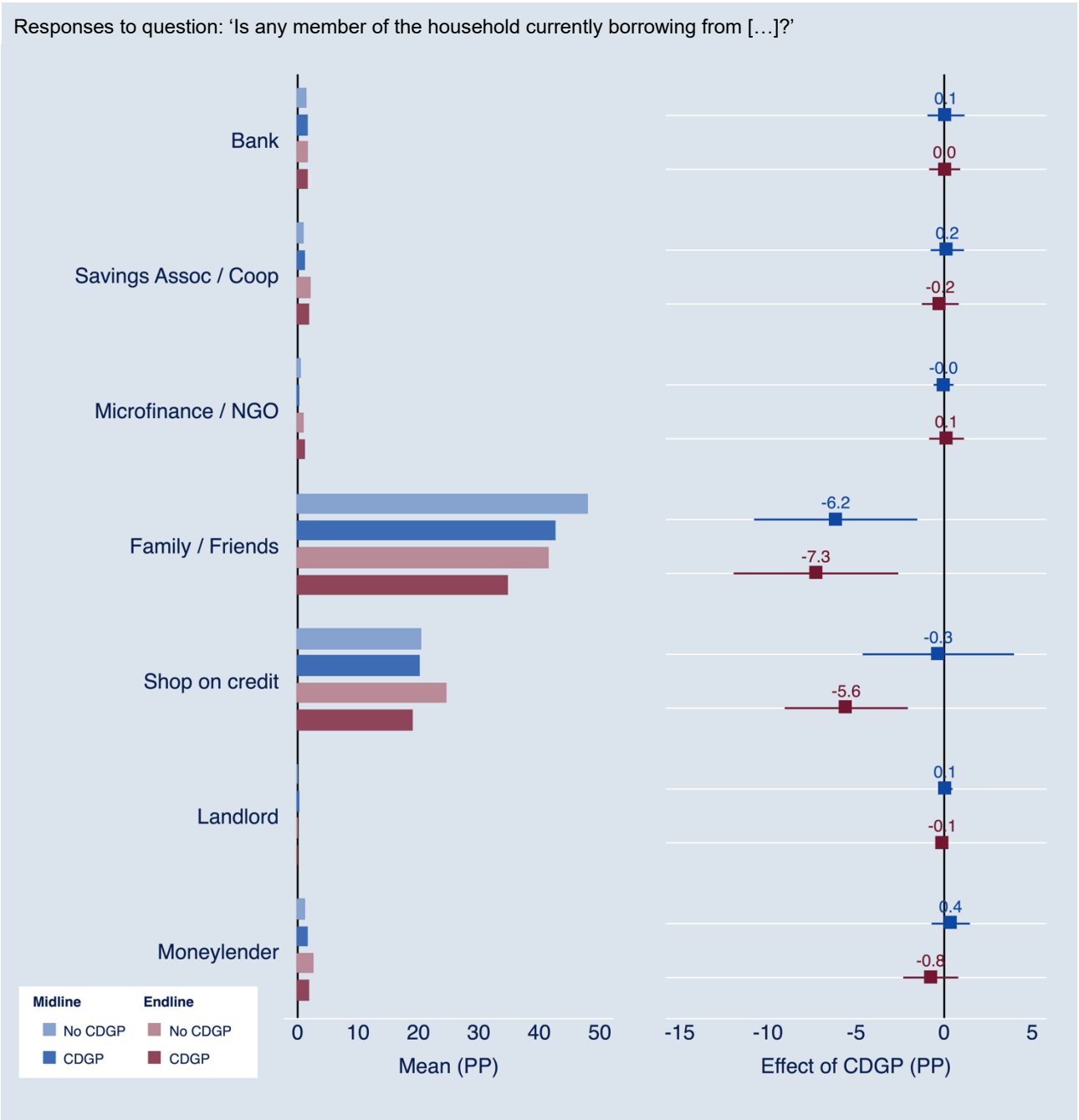
Table 11: Household borrowing and lending

	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)	p-value
% of households with any member borrowing money from any source‡	2464	56.5	-3.01	2839	53.9	-7.47***	0.12
			(2.33)			(2.41)	
% of households with any member trying to borrow money from any source, but failing, in the past 12 months‡	2464	25.3	-1.49	2825	28.7	-1.32	0.96
			(2.26)			(2.23)	
Total value of borrowing, '000 NGN‡‡	2180	5029.0	-643.74*	2528	4800.2	-1004.7***	0.45
		(7924.0)	(365.37)		(8056.6)	(351.3)	
% of households with any member providing loans	2723	37.7	-3.86*	2695	27.8	1.96	0.04
			(2.09)			(2.01)	
Total value of loans, '000 NGN‡‡	3018	2271.3	-62.62	2688	2008.1	188.46	0.44
		(5656.7)	(239.49)		(5515.5)	(216.90)	

Source: CDGP baseline, midline, and endline survey data. Notes: ‡Values above the 99th percentile are converted to missing values. Value is zero if no borrowing/lending. ‡‡Values above the 99th percentile are converted to missing values. Value is missing if no borrowing/lending.

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. ML-EL diff. = p-value of the difference between the effect at midline and at endline.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'ML-EL diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Figure 28: Effect of the CDGP on borrowing sources



Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The left panel shows unweighted estimates of mean levels in non-CDGP and CDGP communities, by wave. The right panel shows the effect of the CDGP, where the number and square are the point estimates and the line is the 95% confidence interval. The effect is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the vertical line*. The line indicates zero effect.
3. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.

Table 12 shows that the CDGP has also had an impact on the proportion of households that are saving, as well as a pronounced impact on the total average value of savings (including both cash and in-kind savings[55]). There are also impacts on the proportion of households with in-kind savings, and the value of cash- and in-kind savings separately, though these are weakly

[55] Note that animals are excluded from in-kind savings as they were reported on separately; see Section 5.3, where we saw large increases in some small animals, such as goats and sheep, that can also be considered liquid assets.

significant. As described above, this impact of the CDGP on savings behaviour is consistent with the findings of the qualitative endline. Similar to the previously reported effects on borrowing, these impacts on savings behaviour are greater than those observed at midline (when there was no impact on the proportion of households saving, but a positive impact on the value saved). This may indicate that the effect of the transfers on facilitating greater saving and reducing dependence on borrowing to manage during times of need emerges only over time, after the accumulation of many successive cash transfer payments. In terms of the institutions at which savings are held, Figure 29 shows that by endline there has been a small increase in the proportion of households saving at formal institutions (banks), as well as informal savings groups – e.g. adashe (merry-go-round).

Table 12: Household saving

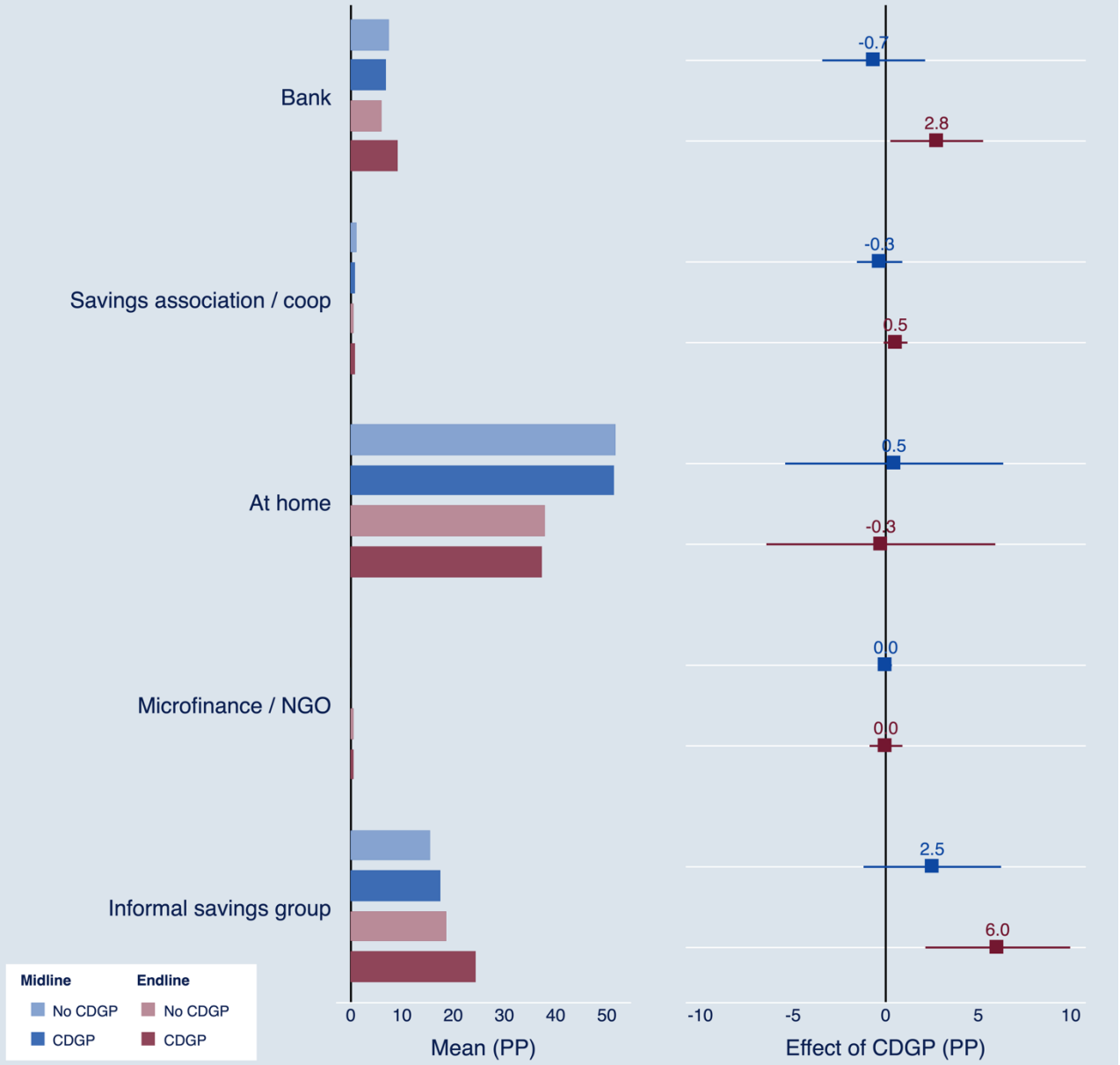
	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)	p-value
% of households with any member saving at any institution	2614	61.5	1.76	2844	47.6	6.76**	0.24
			(2.61)			(2.82)	
% of households with any member having in-kind savings	2615	55.1	1.60	2827	40.8	5.18*	0.35
			(2.92)			(2.97)	
Value of savings							
Total value of savings (excl. in-kind), '000 NGN‡	2276	4345.0	137.58	2537	3515.8	651.08*	0.28
		(7139.3)	(348.07)		(6828.7)	(347.32)	
Total value of in-kind savings, '000 NGN‡	1574	3117.1	1365.99**	2041	3204.5	782.67*	0.38
		(7215.5)	(556.30)		(7437.4)	(457.42)	
Total value of savings (incl. in-kind), '000 NGN‡	1502	5979.4	1171.44**	2002	4401.5	1336.2***	0.82
		(8621.0)	(583.43)		(7816.4)	(494.58)	

Source: CDGP baseline, midline, and endline survey data. Notes: ‡Values above the 99th percentile are converted to missing values. Value is zero if no borrowing/lending. ‡‡Values above the 99th percentile are converted to missing values. Value is missing if no borrowing/lending.

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. ML-EL diff. = p-value of the difference between the effect at midline and at endline.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'ML-EL diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Figure 29: Effect of the CDGP on savings

Responses to question: 'Are any members of the household saving at […]?'



Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The left panel shows unweighted estimates of mean levels in non-CDGP and CDGP communities, by wave. The right panel shows the effect of the CDGP, where the number and square are the point estimates and the line is the 95% confidence interval. The effect is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the vertical line*. The line indicates zero effect.
3. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.

6 Impact of the CDGP on KAP about maternal health and IYCF practices

Key findings

The CDGP has led to dramatic shifts in the reported knowledge and beliefs of both women and their husbands about a wide range of indicators related to maternal and child health and nutrition. This closely echoes the findings we reported at midline, and indicates that the substantial impacts of the CDGP previously reported on improving knowledge have been sustained even once the cash transfers have ended. The magnitude of many of these impacts of the CDGP are considerable, especially relating to uptake of exclusive breastfeeding. Some of the impacts we find on knowledge and beliefs measures are smaller than at midline. However, we also note that there has been **an improvement in knowledge indicators since the midline period in non-CDGP communities too**. This may reflect some 'spillover' of knowledge generated through CDGP SBCC activities also reaching households in non-CDGP communities. If this is the case, then our reported impacts may underestimate the true impact of the programme.

These changes in beliefs have translated into significant impacts on self-reported practices too. There are **significant impacts due to the CDGP on the uptake of ANC, as well as on the proportion of births that occur in a health facility and are attended by skilled health personnel. Importantly, these impacts are even larger for younger children**, which suggests that some of the positive health behaviours the CDGP has sought to promote have persisted beyond the end of the transfers. The CDGP has also had a strong impact on the uptake of positive IYCF practices, including the adoption of exclusive breastfeeding and improved dietary diversity of infants aged over 23 months.

6.1 Women's and men's knowledge and beliefs about health

At midline we found evidence of a striking impact of the CDGP on improving knowledge and beliefs in key indicators of maternal and child health and nutrition. Table 13 reports these impacts again, at both midline and endline, for women. We find that these large and significant impacts are sustained at endline. CDGP has had a very large impact on a wide range of very important indicators, related to pregnancy and delivery, breastfeeding initiation, and exclusive breastfeeding. These include:

- the percentage of women thinking it is best to start breastfeeding immediately or within 30 minutes of birth;
- the percentage of women thinking children should receive something other than breast milk on the first day;
- the percentage of women thinking colostrum is good for the baby; and
- the percentage of women thinking it is ok to give a baby under six months water when it is very hot outside.

Our results point to dramatic shifts in some of these beliefs, especially those related to the importance of exclusive breastfeeding. For some of these variables, the magnitude of the impact is smaller at endline than we found at midline. Table 14 then reports these impacts for husbands, where we also find evidence of large impacts. This is important because it shows that the knowledge impact of the programme is spread across household members, and it does not stay exclusively with women (recall earlier from Section 4.7, we documented increases in husbands

reported exposure to SBCC messages, in both low- and high- intensity communities). These results for women and their husbands closely echo findings from the qualitative midline and endline studies. Impacts are particularly large for beliefs about the importance of exclusive breastfeeding until children turn six months old (KM1). Figure 30 provides a graphical summary of these impacts for women and their husbands, at midline and endline.

Table 13: Women's knowledge and attitudes on pregnancy and breastfeeding

	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)	p-value
Pregnancy and delivery							
% women who would advise a pregnant woman to visit a health facility for a check-up if she is healthy and nothing is wrong	3113	83.2	7.83***	2802	91.5	5.39***	0.19
			(1.99)			(1.22)	
% women who would advise a pregnant woman to eat more food				2807	65.9	7.84***	
						(2.30)	
% women who say the best place for a woman to give birth is at a health facility	3118	22.7	12.22***	2807	33.5	17.45***	0.05
			(2.70)			(2.91)	
Breastfeeding initiation							
% women thinking it is best to start breastfeeding immediately or within 30 minutes of birth	3106	42.7	26.54***	2802	64.6	18.76***	0.02
			(2.79)			(2.49)	
% women thinking it is best to start breastfeeding within one hour of birth	3106	63.2	21.38***	2802	77.0	14.90***	0.01
			(2.59)			(2.10)	
% women thinking babies should receive only breastmilk (and medicine) during the first three days				2807	34.5	32.78***	
						(2.84)	
% women thinking colostrum is good for the baby	3049	71.3	19.37***	2773	78.3	15.17***	0.09
			(2.39)			(1.98)	
Exclusive breastfeeding							
% women thinking baby should be breastfed exclusively for six months	3118	42.1	34.81***	2807	41.9	39.82***	0.10
			(3.16)			(3.39)	
% women thinking it is never ok to give baby under six months water				2806	30.5	44.87***	
						(3.21)	
% women thinking it is ok to give baby under six months water if it is hot outside	3100	65.3	-39.24***	2804	59.6	-42.31***	0.28
			(3.39)			(3.38)	

Source: CDGP baseline, midline, and endline survey data. Notes:
1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. ML-EL diff. = p-value of the difference between the effect at midline and at endline.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'ML-EL diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

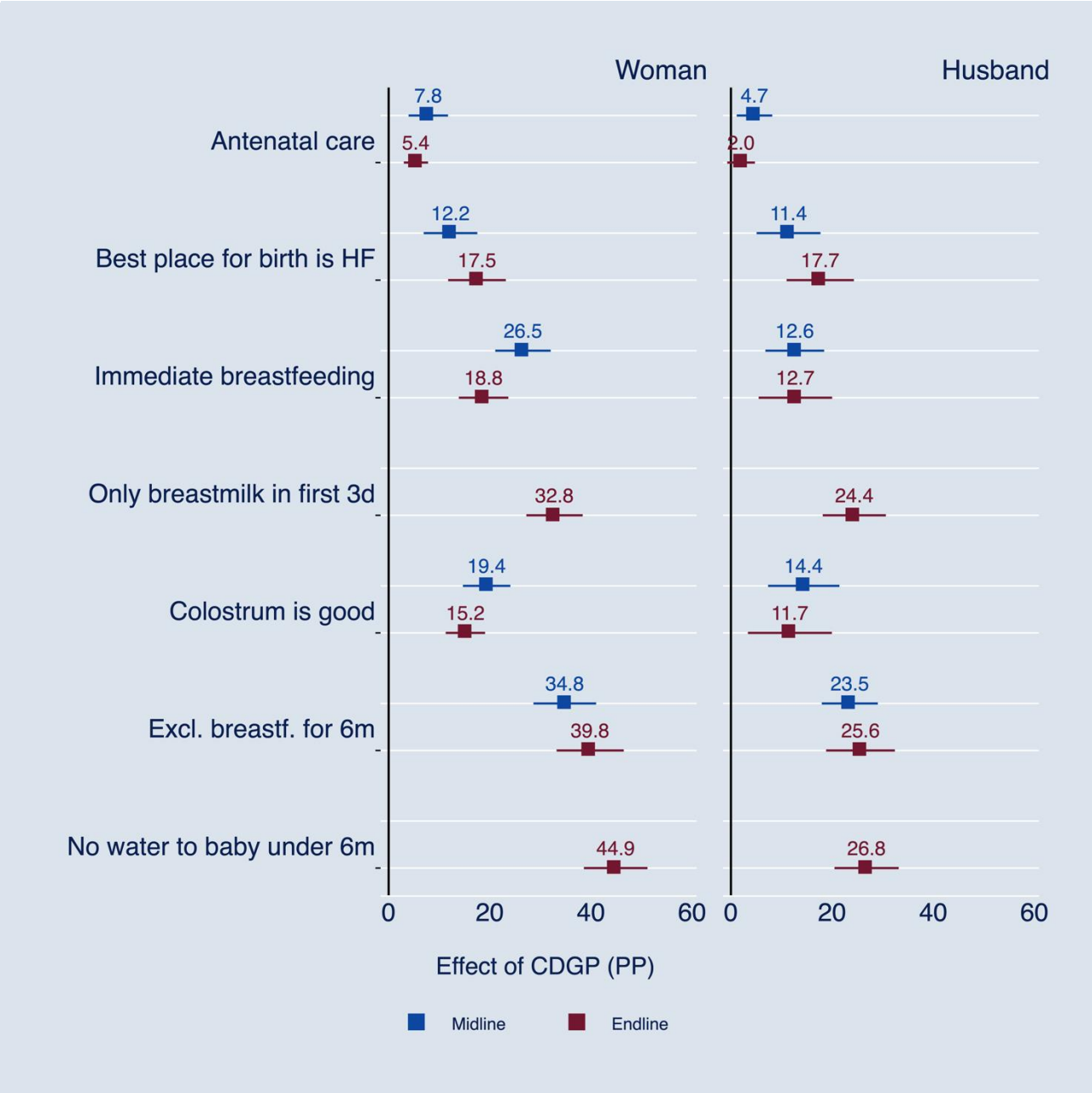
Table 14: Husbands' knowledge and attitudes on pregnancy and breastfeeding

	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)	p-value
Pregnancy and delivery							
% husbands who would advise a pregnant woman to visit a health facility for a check-up if she is healthy and nothing is wrong	1934	89.0	4.65***	1314	93.8	2.01	0.20
			(1.79)			(1.39)	
% husbands who would advise a pregnant woman to eat more food				1316	68.9	3.39	
						(3.09)	
% husbands who say the best place for a woman to give birth is at a health facility	1938	28.8	11.38***	1316	39.7	17.65***	0.10
			(3.22)			(3.39)	
Breastfeeding initiation							
% husbands thinking it is best to start breastfeeding immediately or within 30 minutes of birth	1667	37.5	12.62***	1225	50.5	12.74***	0.98
			(2.96)			(3.71)	
% husbands thinking it is best to start breastfeeding within one hour of birth	1667	57.9	12.12***	1225	65.4	12.72***	0.89
			(2.83)			(3.26)	
% husbands thinking babies should receive only breastmilk (and medicine) during the first three days				1316	30.5	24.39***	
						(3.18)	
% husbands thinking colostrum is good for the baby	1443	58.3	14.39***	1115	62.6	11.66***	0.57
			(3.60)			(4.23)	
Exclusive breastfeeding							
% husbands thinking baby should be breastfed exclusively for six months	1938	25.8	23.50***	1316	29.4	25.61***	0.58
			(2.82)			(3.47)	
% husbands thinking it is never ok to give a baby under six months water				1309	22.0	26.81***	
						(3.24)	
% husbands thinking it is ok to give baby under six months water if it is hot outside	1835	76.9	-25.57***	1295	70.2	-31.86***	0.15
			(2.86)			(3.68)	

Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. ML-EL diff. = p-value of the difference between the effect at midline and at endline.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'ML-EL diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Figure 30: Effect of the CDGP on knowledge and attitudes



Source: CDGP baseline, midline, and endline survey data. See previous tables for definition of indicators. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The two panels show the effect of the CDGP for women and their husbands, where the number and square are the point estimates and the line is the 95% confidence interval. The effect is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the vertical line*. The line indicates zero effect.

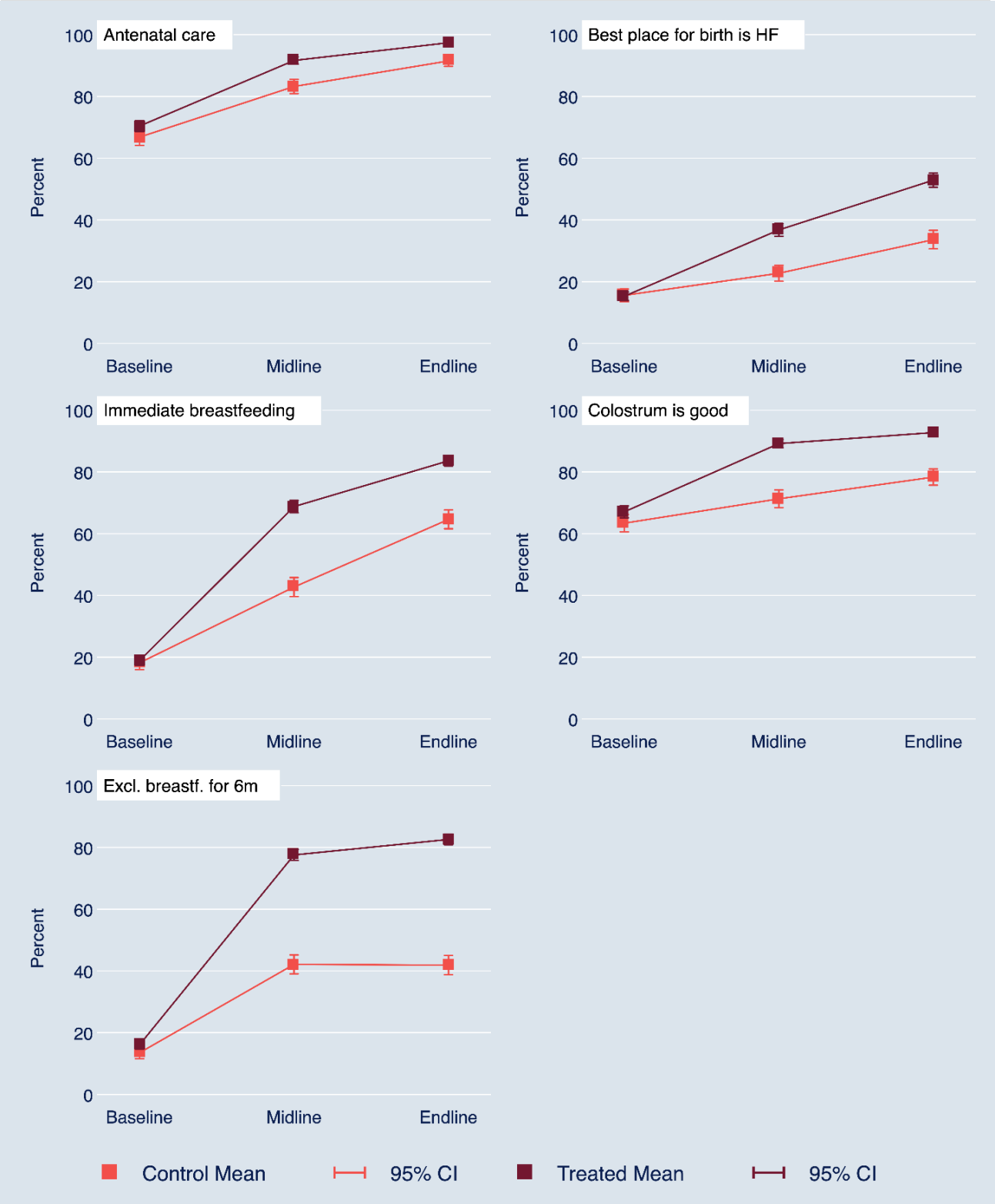
It is important to note that these large impacts on knowledge have occurred in a context of generalised improvements in these indicators since baseline, across the evaluation sample as a whole. Figure 31 and Figure 32 show trends in knowledge indicators among households in CDGP and non-CDGP communities since the baseline.[56] In all cases, we see that knowledge has improved at a faster rate in the CDGP communities compared with non-CDGP communities (so that by midline and endline, there is higher average knowledge in the CDGP group). However,

[56] The indicators we present in these figures are all those for which comparable questions were asked in all three waves of the survey.

these figures also clearly show that there have been improvements in the non-CDGP communities too.

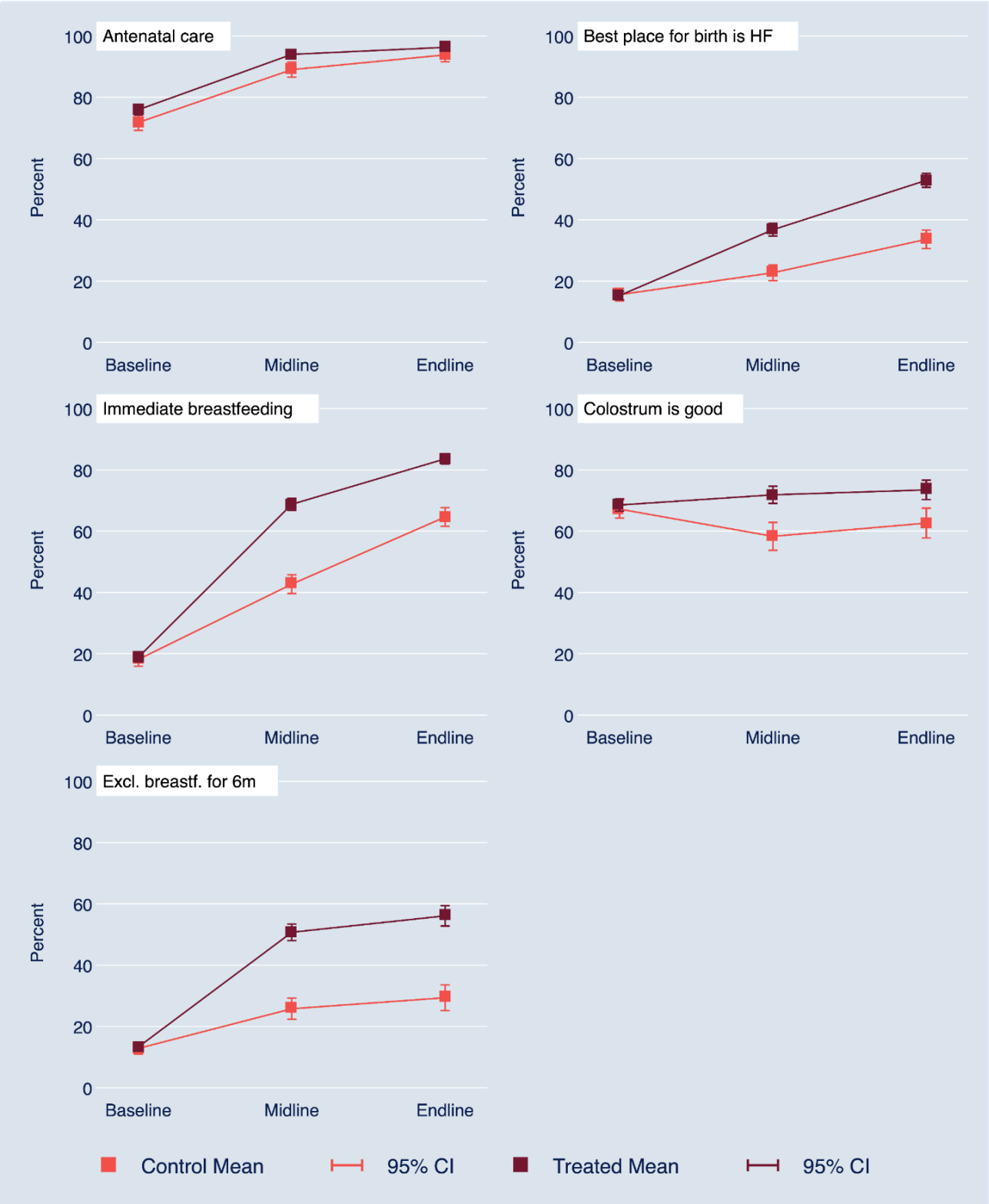
A possible reason for this is that information provided by the CDGP has spread to non-CDGP villages. The midline qualitative report found evidence of fast and widespread diffusion of health and nutrition information from beneficiary women to non-beneficiaries, so it is plausible that this has extended to neighbouring non-CDGP communities too (Sharp and Cornelius, 2017). If this is the case then the large effects of the CDGP on knowledge that we estimate might even be an underestimate of the true impact. Note that we cannot, with certainty, attribute the changes we see in the non-CDGP group to a transfer of knowledge from the CDGP, as these improvements could also reflect secular trends in the region as a whole that are unconnected with the CDGP. However, it seems unlikely that we should observe such a rapid improvement in the non-CDGP group over this time horizon without any external intervention.

Figure 31: Trends in knowledge and attitudes – women



Source: CDGP baseline, midline and endline data. Notes: Sample restricted to households where the index woman was pregnant at baseline. Panels show mean levels of indicators at baseline, midline and endline, separately for non-CDGP and CDGP households.

Figure 32: Trends in knowledge and attitudes – men



Source: CDGP baseline, midline and endline data. Notes: Sample restricted to households where the index woman was pregnant at baseline. Panels show mean levels of indicators at baseline, midline and endline, separately for non-CDGP and CDGP households.

6.2 Beliefs about the returns to recommended breastfeeding and complementary feeding practices

As noted above, a possible concern with our measures of beliefs are that respondents' answers might be affected by social desirability bias: namely, they could be giving responses to satisfy the interviewer's expectations and to provide what is perceived as the 'right' answer, independently of their truly held beliefs. In order to try to mitigate the risk of this issue causing us to over-estimate the impacts of the CDGP on improved knowledge, at endline we have added a module to further understand beliefs about what the benefits of breastfeeding and complementary feeding are for child physical development. This has been done through hypothetical scenarios, presented in Box 4, with accompanying pictures. The gender of the child in these hypothetical scenarios was randomised so that any differences in views relating to boys and girls can be investigated. The idea behind these measures is to provide an indirect elicitation of whether respondents believe that exclusive breastfeeding and complementary feeding practices will in fact lead to improvements in the physical health of babies.

Table 15 shows the results of this exercise. We find that the CDGP had a significant impact on respondents' beliefs about the gains from exclusive breastfeeding. These impacts are observed both for women and their husbands. Beliefs about the magnitude of the returns to breastfeeding are found to be larger than the returns to other complementary practices (although the latter are still significantly different between CDGP and non-CDGP communities). This may be because the complementary feeding scenario is agreed upon by the vast majority of respondents to begin with, since more than 90% of individuals in the control group believe the child is heavier, stronger, and healthier with complementary feeding (as opposed to close to 50% in the case of exclusive breastfeeding). The large changes we find in these beliefs about the returns to exclusive breastfeeding provide supportive evidence that the impacts we observed in women's and husband's knowledge above are genuine.

In Volume II we show results split by child gender: we do not find much evidence on parental beliefs differing by the gender of the child they are randomly presented with in the scenarios.

Box 4: Belief scenarios

Exclusive breastfeeding scenario

There is another village, where two baby [boys/girls] were born. This is not your family, but two different families who live in another village. Both babies were born healthy and of a good size. There is a difference in how their mothers are feeding them.

The mother of Baby 1 keeps breastfeeding [him/her] while [he/she] is less than six months old. She gives him water when she thinks [he/she] is thirsty, or when it's very hot outside. Sometimes, she gives [him/her] porridge when [he/she] seems very hungry.

The mother of Baby 2 breastfeeds [him/her] regularly when [he/she] is hungry or thirsty. She never gives [him/her] any water, even when it's hot outside or when she thinks [he/she] is thirsty. She never gives [him/her] any porridge, just breastmilk.

Questions:

At six months old, which baby do you think is heavier?

At six months old, which baby do you think is stronger?

Which baby do you think falls sick less often?

Complementary feeding scenario

There is a village with two [boy/girl]s aged one year. This is not your family, but two different families living in another village. Both children are healthy and growing well. There is a difference in how their mothers are feeding them.

The mother of [Boy/Girl] 1 is still breastfeeding [him/her] when he wants to. She also gives some food to the baby three times a day. She feeds [him/her] porridge, yam, or cassava. Sometimes, she adds some vegetables. [Boy/Girl] 1 does not eat many eggs, rarely drinks milk, and never eats meat or chicken.

The mother of [Boy/Girl] 2 is still breastfeeding [him/her] when he wants to. She also gives [him/her] food four times a day. She feeds [him/her] porridge, yam, or cassava, or some other cereal, at every meal. [Boy/Girl] 2 eats meat, chicken, or eggs at least once every day. She also makes the meals more colourful by adding beans, lentils, groundnuts, and vegetables like sweet potato, pumpkin, carrots, ugu, and spinach.

Questions:

At two years old, which baby do you think is heavier?

At two years old, which boy do you think is stronger?

Which boy do you think falls sick less often?

Table 15: Beliefs

	Endline, woman			Endline, husband		
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)
Beliefs about the returns to exclusive breastfeeding						
Exclusively breastfed baby is heavier	2798	49.8	32.83***	1306	41.3	23.40***
			(2.82)			(3.84)
Exclusively breastfed baby is stronger	2796	51.2	32.57***	1306	44.8	22.07***
			(2.79)			(3.92)
Exclusively breastfed baby falls sick less often	2767	64.1	24.69***	1277	52.4	19.26***
			(2.49)			(3.63)
Beliefs about the returns to complementary feeding						
Child with more diverse diet is heavier	2802	93.7	2.86***	1312	94.2	3.08**
			(1.01)			(1.22)
Child with more diverse diet is stronger	2801	93.0	3.25***	1313	93.6	2.64**
			(1.05)			(1.19)
Child with more diverse diet falls sick less often	2781	93.1	3.26***	1294	92.7	3.56**
			(0.99)			(1.45)

Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
5. The 'Effect' is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

6.3 Maternal health and ANC practices

To assess the effect of the CDGP on the use of ANC services, we compare use of ANC among women who were pregnant at the time of the midline and endline surveys between CDGP and non-CDGP communities.[57] Table 16 shows that there are dramatic increases in the use of ANC, caused by the CDGP, for women who were pregnant at the time of the survey. We find that around 36% of women in CDGP communities who were pregnant when interviewed at endline reported having accessed ANC services, compared with 53% of women in non-CDGP communities. This could be due to the cash transfer enabling women to travel to attend ANC, or the emphasis on ANC included in the SBCC component, or both. Even though we see an increase in the use of ANC among the control group from midline to endline, the impacts of the CDGP do not decline across survey waves (even though the transfers are likely to have finished for those pregnant at endline).

Table 17 reports results on ANC received during pregnancy and whether children were born in a health facility. In this table we compare results for the 'midline child' sample (the sample of children who were born in between the baseline and midline surveys), and the younger 'endline child' sample (the sample of children born in between the midline and endline surveys). Two key findings emerge from this table. The first is that the CDGP has had a considerable impact on the proportion of children whose mother received ANC during her pregnancy, and the proportion of children born in a health facility. The second observation is that impacts are even larger for the younger sample (the endline child sample). This suggests that the positive practices around pregnancy and birth that the CDGP has promoted are continued, and even amplified, for younger children born into the household. This is encouraging as it indicates that the adoption of these practices continues even after direct exposure to the CDGP transfers comes to an end.

Table 16: ANC for women who were pregnant at the time of the survey

	Pregnant at midline			Pregnant at endline		
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)
% of women who have had ANC for current pregnancy	1108	19.5	16.77***	488	35.6	16.30***
			(3.26)			(5.19)
If not: % of women who plan to receive any ANC during the pregnancy	742	69.5	13.63***	256	74.0	19.59***
			(3.84)			(5.76)

Source: CDGP baseline, midline, and endline survey data. Notes:
1. The sample is women who were pregnant at the time of the baseline survey in 2014. The sample is further restricted to women who were pregnant either at the midline or endline survey. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. Means and effects are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
5. The 'Effect' is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), ***(1%).

[57] The sample for this analysis is women who were pregnant at the time of the baseline and midline or endline surveys. We note here that if the CDGP has a fertility effect, the sample of women who were also pregnant at endline in CDGP communities may have systematically different characteristics from those in non-CDGP communities. This may introduce endogeneity (bias) into the impact estimation, and therefore the magnitude of these estimates should be treated with caution. However, when looking at women's fertility in Section 7.1 below, we do not find evidence of differential fertility induced by the programme.

Table 17: ANC and delivery of midline children (born after the baseline, before the midline) vs endline children (born after the midline, before the endline)

	Midline child			Endline child		
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)
% children whose mother had ANC during the pregnancy	2718	61.0	9.43***	1886	69.6	16.63***
			(3.44)			(3.29)
% of children born at a health facility	2698	13.0	4.82**	1881	15.1	11.03***
			(1.98)			(2.38)
% of children whose birth was assisted by a doctor, nurse, midwife, or CHEW	2718	15.5	5.73***	1886	18.3	11.53***
			(2.10)			(2.77)

Source: CDGP baseline, midline, and endline survey data. Notes:
1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
5. The 'Effect' is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), ***(1%).

6.4 IYCF practices

Table 18 summarises changes in actual practices related to IYCF for those children born after the midline (but before the endline: the 'endline child'). These children are in the appropriate age range at endline for IYCF practices to be relevant to them. Across a wide range of outcomes, we observe significant increases in healthy IYCF practices in women in CDGP communities compared to those in non-CDGP communities. These relate both to breastfeeding practices for young children and nutrition outcomes for older children. Improvements are particularly stark for immediate, exclusive, and appropriate breastfeeding. This is consistent with our previous results documenting a substantial increase in knowledge about best breastfeeding practices. It is reassuring to see that the change in knowledge also translates into a change in behaviour.

At midline we found a striking impact of the CDGP on the proportion of women who reported having adopted exclusive breastfeeding for their child under six months. We continue to observe a large impact at endline on the adoption of exclusive breastfeeding for the sample of new children born into the household (the 'endline' children). The impact of the CDGP on the proportion of this sample that are reported to be exclusively breastfed under six months of age is slightly less than 30 percentage points, with 47% of respondents in non-CDGP communities reporting having adopted exclusive breastfeeding, compared with 75% of those in CDGP communities.

Figure 33 summarises impacts on these practices graphically, showing impacts for each key outcome. It compares impacts on IYCF outcomes for children born between the baseline and midline (the 'midline child') and those born between the midline and endline (the 'endline child'): these are all in the appropriate age ranges for IYCF practices to be relevant. The broad patterns of impact are very similar across the two types of children, with the largest impacts being on breastfeeding practices – in particular the likelihood of being exclusively breastfed. Again, this is largely consistent with evidence from the qualitative midline and endline reports, where women

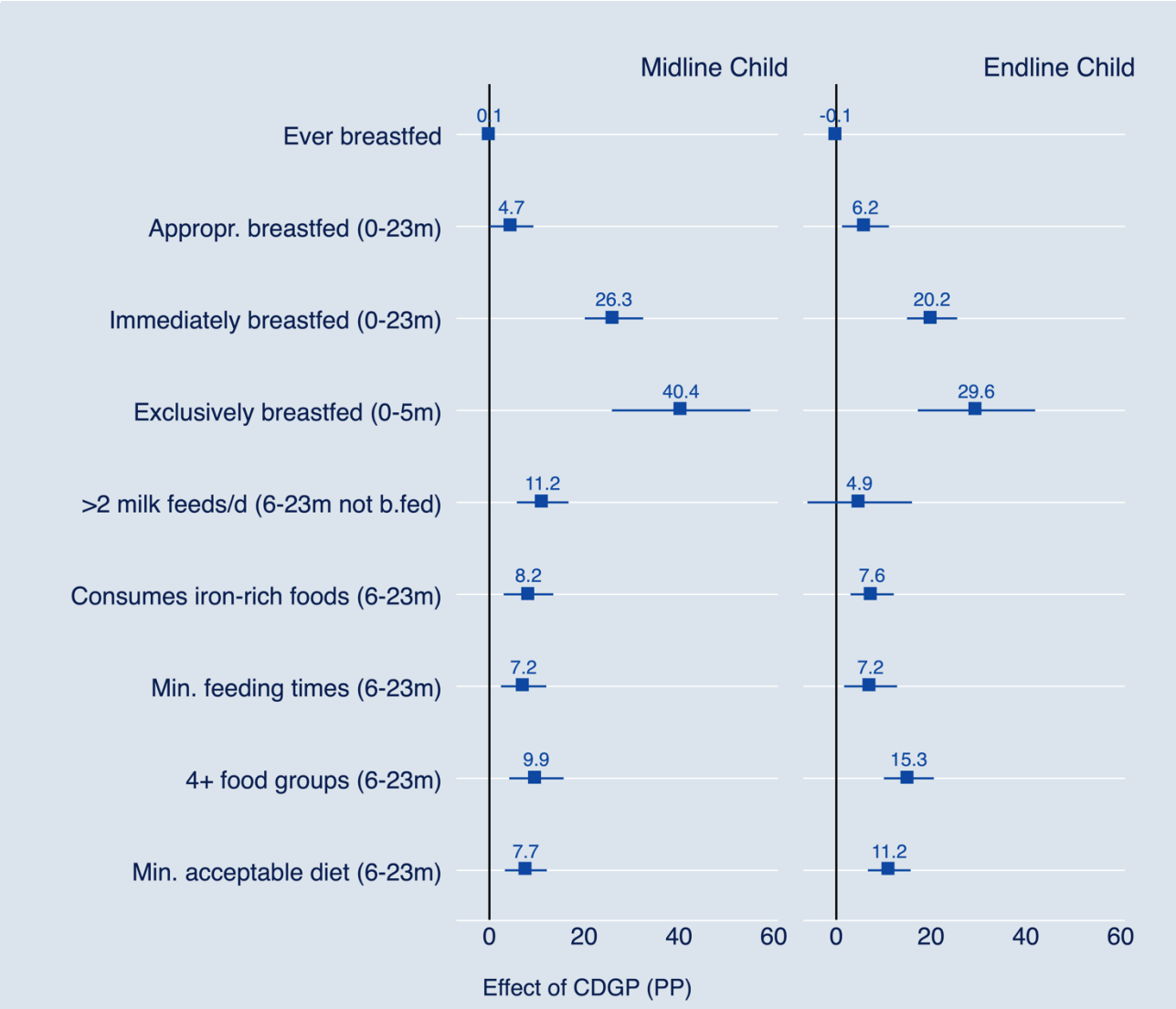
reported having enthusiastically adopted exclusive breastfeeding (Sharp and Cornelius, 2017, p. 39), (Sharp, Cornelius, and Gadhavi, 2018).

Table 18: IYCF for endline children (born after the midline, before the endline)

	Endline		
	N	Non-CDGP mean (SD)	CDGP effect (SE)
Child ever breastfed Proportion of children born in the last 24 months who were ever breastfed	1885	99.8	-0.06
			(0.20)
Age-appropriate breastfeeding Proportion of children 0–23 months of age who are appropriately breastfed	1883	68.5	6.15**
			(2.53)
Early initiation of breastfeeding (immediately) Proportion of children born in the last 24 months who were put to the breast within one hour of birth	1881	67.2	20.20***
			(2.70)
Early initiation of breastfeeding (24 hours) Proportion of children born in the last 24 months who were put to the breast within 24 hours of birth	1881	87.1	9.64***
			(1.78)
Exclusive breastfeeding among children under 6 months Proportion of infants 0–5 months of age who are fed exclusively with breast milk	335	47.3	29.57***
			(6.31)
Predominant breastfeeding among children under 6 months Proportion of infants 0–5 months of age who are predominantly breastfed	336	90.9	2.45
			(3.21)
Continued breastfeeding at one year (12–15 months) Proportion of children 12–15 months of age who are fed breast milk	500	97.8	1.29
			(1.19)
Continued breastfeeding at two years (20–23 months) Proportion of children 20–23 months of age who are fed breast milk	232	35.7	-7.59
			(6.65)
Milk feeding frequency Proportion of non-breastfed children 6–23 months of age who receive at least two milk feedings in 24 hours	214	18.1	4.93
			(5.62)
Introduction of solid, semi-solid, or soft foods (6–8 months) Proportion of infants 6–8 months of age who receive solid, semi-solid or soft foods	176	46.0	12.14
			(8.07)
Consumption of iron-rich/fortified foods (6–23 months) Proportion of children 6–23 months of age who receive an iron-rich food or iron-fortified food that is specially designed for infants and young children, or that is fortified in the home	1547	16.1	7.55***
			(2.33)
Minimum meal frequency (6–23 months) Proportion of breastfed and non-breastfed children 6–23 months old who receive solid, semi-solid, or soft foods (including milk feeds for non-breastfed children) the minimum number of times or more	1546	50.1	7.23**
			(2.85)
Minimum dietary diversity (6–23 months) Proportion of children 6–23 months of age who receive foods from four or more food groups[+]	1547	37.4	15.30***
			(2.69)
Minimum acceptable diet (6–23 months) Proportion of children 6–23 months of age who receive a minimum acceptable diet (apart from breast milk)[++]	1547	23.1	11.16***
			(2.30)
Exclusively breastfed for at least six months (if already stopped exclusively breastfeeding at time of endline interview)	1654	19.8	40.57***
			(3.49)

Source: CDGP baseline, midline, and endline survey data. Notes:
1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. ML-EL diff. = p-value of the difference between the effect at midline and at endline.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'ML-EL diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). In addition, we control for child age and gender. SEs are clustered at the village level. Significance levels: * (10%), ** (5%), ***(1%).

Figure 33: Effect of the CDGP on IYCF for midline children (born after the baseline, before the midline) vs endline children (born after the midline, before the endline)



Source: CDGP baseline, midline, and endline survey data. See previous tables for definition of indicators. Notes:
1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The two panels show the effect of the CDGP for children born between baseline and midline, and children born between midline and endline, where the number and square are the point estimates and the line is the 95% confidence interval. The effect is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the vertical line*. The line indicates zero effect.

Dietary diversity measures children's access to a variety of foods and is a proxy for nutrient adequacy. In terms of dietary diversity measures, Table 19 also shows significant improvements in

practices related to midline children (born between baseline and midline), as measured by both the WHO Minimum Dietary Diversity (MDD) Indicator and the Food and Agriculture Organization (FAO) Individual Dietary Diversity Score (IDDS). The impacts are sustained through to the endline.

Figure 34 examines the impact of the CDGP on the intake of specific food groups used to construct the MDD and IDDS Indices. We see that the programme leads to an improvement for the midline child in the intake of some food groups, most notably of dairy products, fleshy foods and other fruit and vegetables. Figure 35 confirms these impacts to be similar for boys and girls. This is important as it suggests that there is no differential investment in nutrition-related investments according to the gender of the child.

Table 19: Nutrition of midline children (born after the baseline, before the midline)

	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)	p-value
MDD (WHO) +	2594	3.2	0.36***	2184	4.0	0.37***	0.91
		(1.5)	(0.07)		(1.2)	(0.07)	
IDDS (FAO) ++	2594	3.5	0.34***	2184	4.5	0.42***	0.40
		(1.6)	(0.08)		(1.3)	(0.08)	

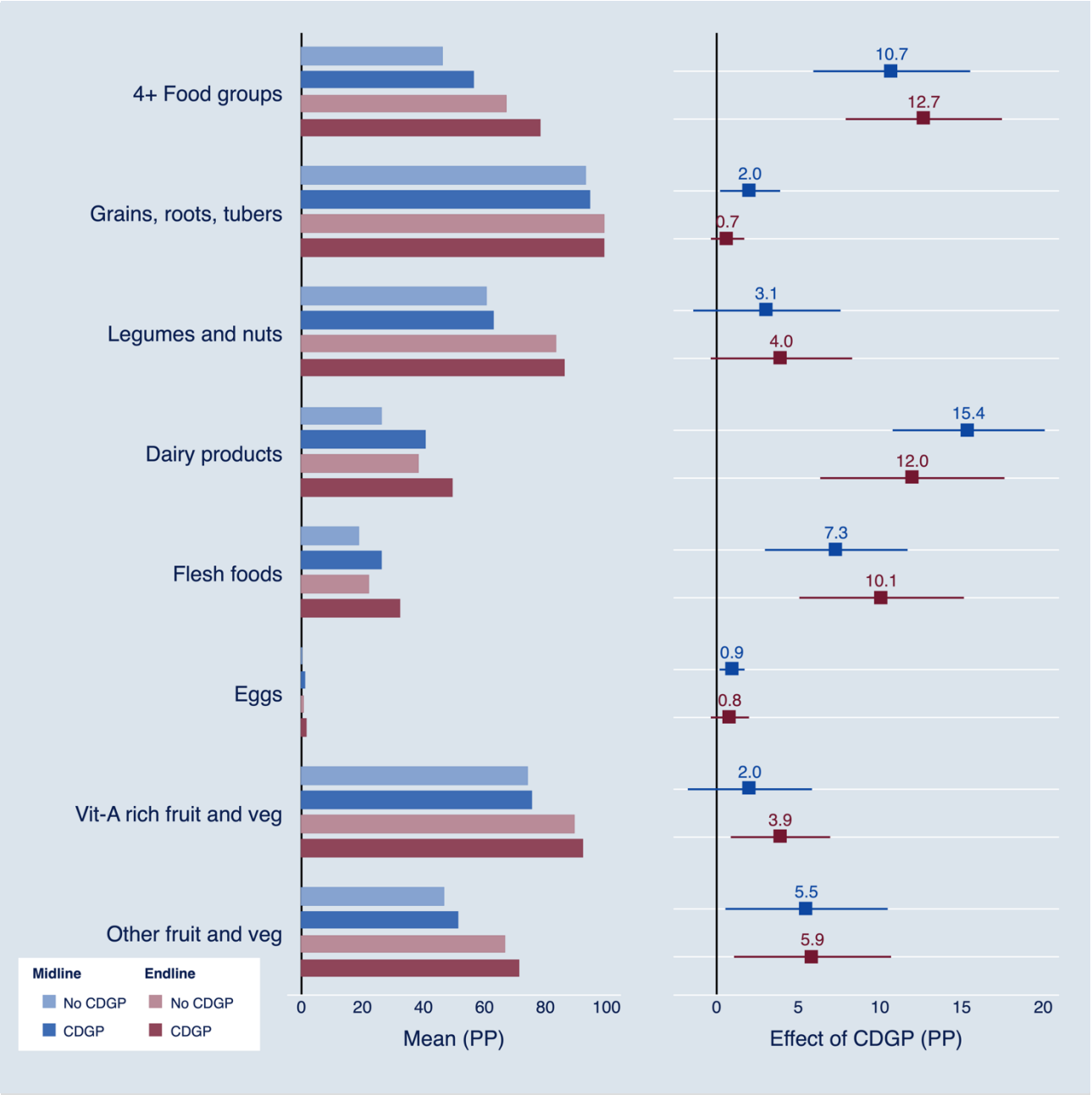
Source: CDGP baseline, midline, and endline data. Notes: Indicators in this table are constructed using a 24-hour food recall diary, where the mother/carer is asked to list all the foods the child ate during the previous day, from the moment they woke up to when they went to sleep. For each dish, the mother is asked to list each ingredient used, which is then categorised into different food groups. The indicators are constructed by summing the number of food groups the child received.

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. Means, effects and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
5. The 'Effect' is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). In addition, we control for child age and gender. SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

+The seven foods groups used for calculation of this indicator are: (1) grains, roots and tubers; (2) legumes and nuts; (3) dairy products (milk, yoghurt, cheese); (4) flesh foods (meat, fish, poultry, and liver/organ meats); (5) eggs; (6) vitamin A-rich fruits and vegetables; and (7) other fruits and vegetables.

++The nine food groups used for the calculation of this indicator are: (1) starchy staples; (2) dark-green leafy vegetables; (3) other vitamin A-rich fruits and vegetables; (4) other fruits and vegetables; (5) organ meat; (6) meat and fish; (7) eggs; (8) legumes, nuts, and seeds; and (9) milk and milk products.

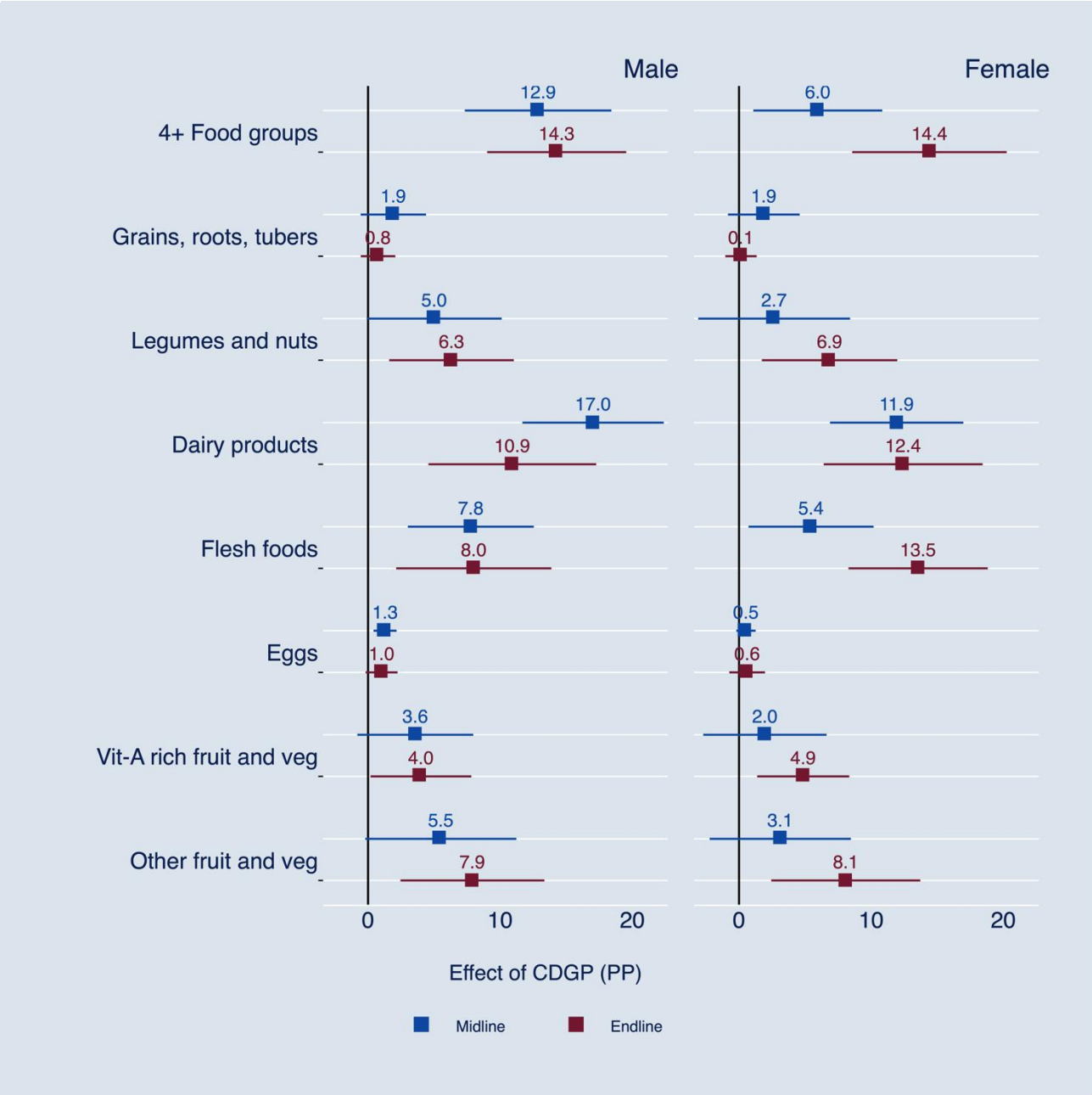
Figure 34: Effect of the CDGP on the nutrition of midline children (born after the baseline, before the midline)



Source: CDGP baseline, midline, and endline survey data. Notes: Indicators in this table are constructed using a 24-hour food recall diary, where the mother/carer is asked to list all the foods the child ate during the previous day, from the moment they woke up to when they went to sleep. For each dish, the mother is asked to list each ingredient used, which is then categorised into different food groups.

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The left panel shows unweighted estimates of mean levels in non-CDGP and CDGP communities, by wave. The right panel shows the effect of the CDGP, where the number and square are the point estimates and the line is the 95% confidence interval. The effect is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). In addition, we control for child age and gender. SEs are clustered at the village level. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the vertical line*. The line indicates zero effect.
3. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.

Figure 35: Effect of the CDGP on the nutrition of midline children (born after the baseline, before the midline), by child gender



Source: CDGP baseline, midline, and endline survey data. Notes: Indicators in this table are constructed using a 24-hour food recall diary, where the mother/carer is asked to list all the foods the child ate during the previous day, from the moment they woke up to when they went to sleep. For each dish, the mother is asked to list each ingredient used, which is then categorised into different food groups.

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The left panel shows unweighted estimates of mean levels in non-CDGP and CDGP communities, by wave. The right panel shows the effect of the CDGP, where the number and square are the point estimates and the line is the 95% confidence interval. The effect is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). In addition, we control for child age. SEs are clustered at the village level. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the vertical line*. The line indicates zero effect.
3. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.

Table 20: Nutrition of endline children (born after the midline, before the endline)

	Endline		
	N	Non-CDGP mean (SD)	CDGP effect (SE)
6–23 months old, breastfed			
MDD (WHO) [+]	1323	2.8	0.53***
		(1.5)	(0.09)
IDDS (FAO) [++]	1323	3.0	0.59***
		(1.7)	(0.10)
6–23 months old, not breastfed			
MDD (WHO) [+]	214	3.7	0.23
		(1.2)	(0.20)
IDDS (FAO) [++]	214	4.0	0.39*
		(1.4)	(0.21)

Source: CDGP baseline, midline, and endline data. Notes: Indicators in this table are constructed using a 24-hour food recall diary, where the mother/carer is asked to list all the foods the child ate during the previous day, from the moment they woke up to when they went to sleep. For each dish, the mother is asked to list each ingredient used, which is then categorised into different food groups. The indicators are constructed by summing the number of food groups the child received.

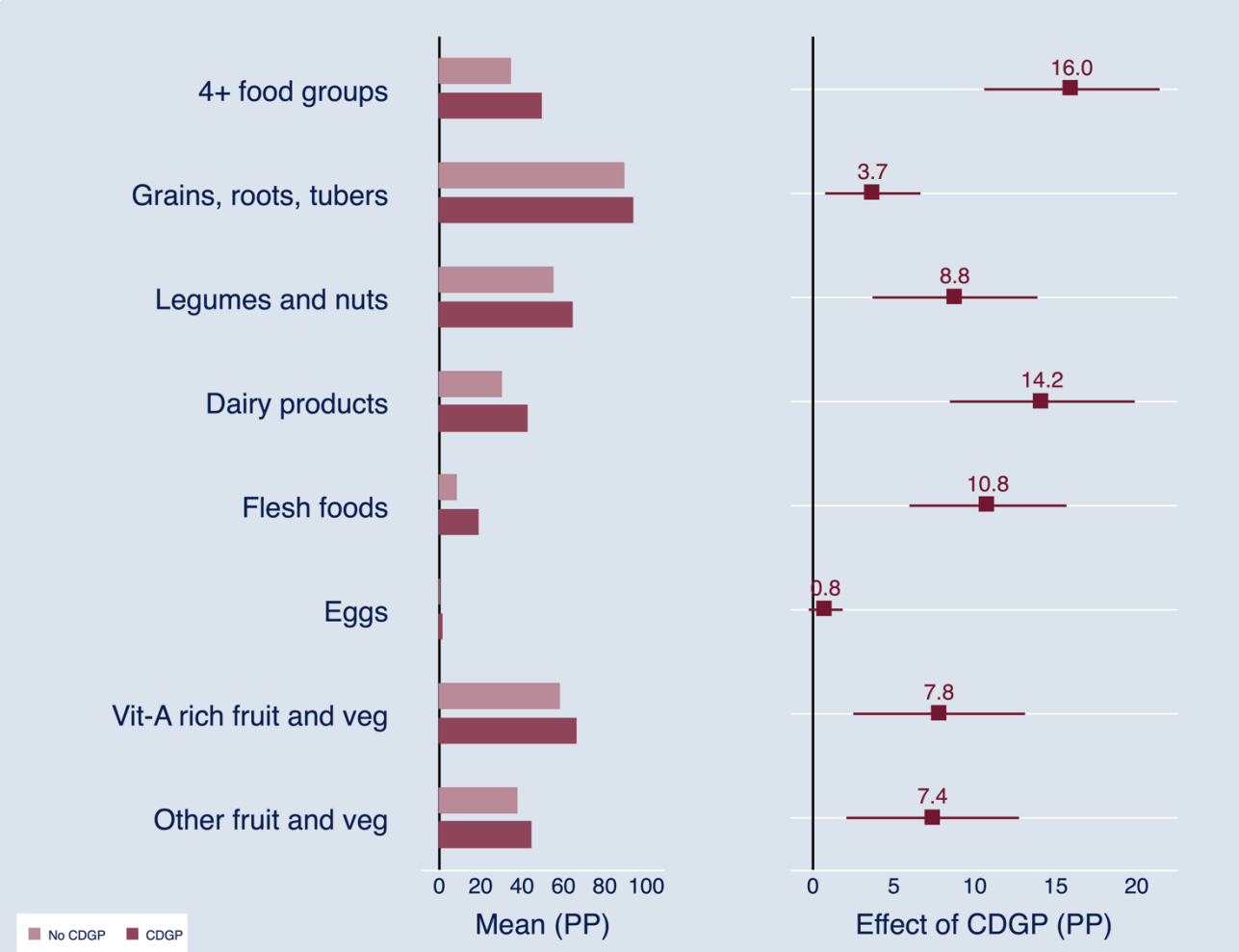
1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
5. The 'Effect' is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). In addition, we control for child age and gender. SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

[+]The seven foods groups used for calculation of this indicator are: (1) grains, roots, and tubers; (2) legumes and nuts; (3) dairy products (milk, yoghurt, cheese); (4) flesh foods (meat, fish, poultry, and liver/organ meats); (5) eggs; (6) vitamin A-rich fruits and vegetables; and (7) other fruits and vegetables.

[++]The nine food groups used for the calculation of this indicator are: (1) starchy staples; (2) dark-green leafy vegetables; (3) other vitamin A-rich fruits and vegetables; (4) other fruits and vegetables; (5) organ meat; (6) meat and fish; (7) eggs; (8) legumes, nuts, and seeds; and (9) milk and milk products.

For the endline child, Table 20 shows that the CDGP has led to improvements in dietary diversity, and these impacts are comparable to those reported for the midline child earlier in Table 19 and Figure 36 below, then shows there to be increased nutritional intake for the endline child across a wide range of food groups, including the same ones as for the midline child but also for grains, roots, and tubers, and Vitamin A-rich fruit and vegetables.

Figure 36: Effect of the CDGP on the nutrition of endline children (born after the midline, before the endline) – 6–23 months, breastfed



Source: CDGP baseline, midline, and endline survey data. Notes: Indicators in this table are constructed using a 24-hour food recall diary, where the mother/carer is asked to list all the foods the child ate during the previous day, from the moment they woke up to when they went to sleep. For each dish, the mother is asked to list each ingredient used, which is then categorised into different food groups.

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The left panel shows unweighted estimates of mean levels in non-CDGP and CDGP communities, by wave. The right panel shows the effect of the CDGP, where the number and square are the point estimates and the line is the 95% confidence interval. The effect is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). In addition, we control for child age and gender. SEs are clustered at the village level. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the vertical line*. The line indicates zero effect.
3. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.

In Volume II we present the results disaggregated by gender. We find some evidence that the CDGP has had a somewhat large effect on improving the dietary diversity for girls, but we do also find significant, albeit smaller, impacts for boys.

The qualitative midline report also found very similar evidence related to dietary improvements (Sharp and Cornelius, 2017, p. 36 ff.). Women cited the CDGP's role in enabling them to make more autonomous choices in terms of what and when to eat and feed their children, instead of having to rely solely on their husband. This has resulted in a shift from the consumption of simple cereal staples to more meat, dairy, nuts, and fruits, which is reflected in these quantitative findings.

7 Impact of the CDGP on household demographics, poverty, expenditure, food security, and sanitation

Key findings

The age profile of households in our evaluation sample is symptomatic of a **young and growing population, where fertility rates as a whole are high.** We examine whether the CDGP has had an unintended influence on increasing average fertility, which might be the case if women were incentivised to have pregnancies that they might not otherwise have had in order to receive the grant. However, **we do not find evidence of increased fertility as a result of CDGP**.

In terms of household expenditure, we find a **striking impact of the CDGP transfers on expenditure, which has persisted from midline to endline.** We continue to find that household monthly expenditure (total) increases by a larger amount than the value of the transfer itself. This result holds in spite of the fact that many of our sample of households with women who were initially pregnant at baseline are by now no longer currently receiving the cash. It is all the more remarkable given that by endline we no longer observe an impact of the CDGP on the combined income of husbands and wives, though it may be related to the increased business revenue for women reported in Section 5.1.

The substantial impacts on household expenditure, and the large share that is spent on food, have translated into **positive impacts on household food availability across all seasons**. As at midline, **these impacts are larger in the seasons when hunger is more prevalent**. We also find **an impact on households' ability to access improved water and toilet sources**. At midline, we did not find any evidence of an impact on improved toilet facilities. The fact that we now see this at endline is an important result, for a dimension that is critically important to child health. This may only have become possible through the accumulation of transfers over time.

7.1 Household demographics and fertility

In this section we first describe the composition of households for the sample used throughout this report. Table 21 shows that more than one-quarter of household members are under six, and the majority are under 18 years old. In addition, 2% of household members are aged 65 and above. This distribution of ages is typical of a young and growing population, exhibiting high rates of fertility.

Table 21: Household size and age composition

	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)	p-value
Household size	3225	8.41	0.03	2863	9.09	-0.03	0.58
		(4.13)	(0.09)		(4.10)	(0.12)	
Mean member age	3225	17.76	-0.35**	2863	17.55	-0.11	0.31
		(5.36)	(0.16)		(5.21)	(0.24)	
% household members in age group:							
0–5 years	3225	30.03	0.94**	2863	31.50	-0.25	0.01
		(12.69)	(0.40)		(12.60)	(0.44)	
6–12 years	3225	20.90	-0.21	2863	22.43	0.74*	0.06
		(14.89)	(0.32)		(13.78)	(0.43)	
13-17 years	3225	7.71	-0.62*	2863	7.63	-0.43	0.64
		(9.85)	(0.35)		(9.19)	(0.32)	
18–64 years	3225	39.66	-0.16	2863	36.38	0.06	0.67
		(14.49)	(0.41)		(12.87)	(0.47)	
65+ years	3225	1.70	0.01	2863	2.06	-0.13	0.69
		(5.20)	(0.19)		(6.01)	(0.32)	

Source: CDGP baseline, midline, and endline survey data. Notes:
1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. ML-EL diff. = p-value of the difference between the effect at midline and at endline.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'ML-EL diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Table 21 also shows that at midline households in CDGP communities had a larger proportion of children aged 0–5 compared to households in non-CDGP communities. At endline, households in CDGP communities have a larger proportion of children aged 6–12 compared to households in non-CDGP communities (although this is only weakly significant). The differences between midline and endline may reflect the ageing of a cohort of children.

We consider whether the CDGP may have had an effect on the number of infants born to women in CDGP communities. We do so by focusing on a slightly different estimation sample than we have used for most of the results in this report. For most of our analysis we have been concerned with households where the index woman was pregnant at baseline (amounting to approximately two-thirds of our sample). To analyse the effect of the CDGP on fertility, we now look at households where the sampled woman was not pregnant at baseline.[58] The results we present are similar when we include in the sample women pregnant at baseline.

In Table 22 we consider a range of indicators relating to fertility levels in the sample. These are: the percentage of women who gave birth to any child between baseline and midline, and baseline

[58] Note that these women were selected because they were identified as being highly likely to become pregnant over the course of the evaluation based on their characteristics such as age, marital status, number of children, etc.

and endline; the number of biological children of the woman (including those not living in the household anymore) born after the baseline; and the spacing between a child born after the start of the CDGP (i.e. born after the baseline) and a previous child born to the index woman (in months). We look at this for women who were not pregnant at the time of the baseline and women who were pregnant at baseline separately. This is because if the introduction of the CDGP generated incentives for women to become pregnant in order to receive transfers, we would be more likely to see this effect for women who were not already pregnant at the time of the baseline. The first panel shows that more than 80% of women not pregnant at baseline became pregnant and gave birth between baseline and endline. This is a high number but not surprising since the sample was designed to include women likely to become pregnant over the course of the evaluation.

What is interesting is that, as a result of the CDGP, we find no increase in the percentage of women giving birth to a biological child between baseline and endline. These differences are not statistically significant. This implies that there is no measurable fertility response of women who were not already pregnant at baseline, seeking to become pregnant in higher numbers in CDGP communities in order to receive the grant. This conclusion slightly differs from the midline finding, where we found a slight increase in the number of births in CDGP communities. However, over the longer time period of study until endline, we no longer find any evidence of a possible fertility effect of the CDGP.[59]

[59] The fact that there is no fertility response among non-pregnant women gives us greater confidence to also use the results on other outcomes among the sample of women that were not-pregnant at baseline. This is because there is no evidence of a change in fertility-related behaviour among such women in response to the programme – either in terms of the likelihood or timing of births.

Table 22: Fertility across the evaluation period, households without a pregnant woman at baseline

		Non-CDGP	Low-int	High-int	LI-HI diff.
	N	Mean (SD)	CDGP effect (SE)	CDGP effect (SE)	p-value
From baseline (2014) to endline (2018) – whole evaluation period					
% women with any live birth	1389	86.1	1.85	2.36	0.82
			(2.17)	(2.07)	
Number of live births	1389	1.4	0.06	0.06	0.95
		(0.7)	(0.05)	(0.04)	
% women who had a live born child die	1389	13.1	1.23	0.52	0.75
			(2.16)	(2.26)	
Number of live born children who died	1389	0.2	0.00	-0.02	0.54
		(0.5)	(0.03)	(0.03)	
From baseline (2014) to midline (2016)					
% women with any live birth	1558	61.7	4.32	1.61	0.36
			(3.18)	(3.28)	
Number of live births	1558	0.7	0.06**	0.02	0.17
		(0.5)	(0.03)	(0.03)	
% women who had a live born child die	1558	8.7	0.83	0.11	0.69
			(1.62)	(1.98)	
Number of live born children who died	1558	0.1	0.01	-0.00	0.62
		(0.3)	(0.02)	(0.02)	
From midline (2016) to endline (2018)					
% women with any live birth	1392	61.1	-0.49	2.20	0.43
			(3.24)	(3.03)	
Number of live births	1389	0.7	-0.01	0.04	0.18
		(0.5)	(0.04)	(0.03)	
% women who had a live born child die	1389	7.5	-0.51	-0.34	0.92
			(1.77)	(1.65)	
Number of live born children who died	1389	0.1	-0.00	-0.00	0.94
		(0.3)	(0.02)	(0.02)	
% women who had a miscarriage	1389	12.0	-2.49	-1.73	0.71
			(2.08)	(2.14)	
Number of miscarriages	1389	0.1	-0.02	-0.01	0.54
		(0.4)	(0.02)	(0.03)	
	1392	61.1	-0.49	2.20	0.43

Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
5. The 'Effect' for high- and low-intensity villages is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

7.2 Household assets and expenditure

Table 23 reports the impact of the CDGP on monthly household expenditure. The results are striking; we find that the CDGP leads to a large impact on household expenditure, which is greater in magnitude than the value of the transfer itself. This is largely driven by a substantial impact on monthly household food expenditure of NGN 2,720 at endline, which amounts to around 65% of the size of the transfer (worth NGN 4,000 by the time of the endline). This is consistent with the finding that beneficiaries spend the majority of their transfer on food for the household or for children in particular (reported in Section 4.3 above). Table 23 also shows that the CDGP had a positive impact on non-food and durables[60] expenditure. These results are especially notable when we consider that by the time of the endline, most of our sample residing in CDGP-communities has now exited the programme.

In view of the fact that transfers had mostly ended in our sample of CDGP-communities, and the absence of a correspondingly large impact observed on the combined income of husbands and wives (see Section 5.1), it is useful to comment on what may have facilitated these positive impacts on household expenditure.

The first observation to make is that income is among the most difficult indicators to measure in our survey, and it is possible that our results were affected by some measurement error. As discussed in Section 5.1, in a context where livelihoods are highly seasonal and incomes may be earned through an accumulation of different activities at different times of year, gaining an accurate picture of overall income is challenging. These challenges may mean that we need to apply caution in drawing definitive conclusions about the effect of the CDGP on household income. There is other evidence presented in this report that does suggest that the CDGP led to an increase in household means. This includes a positive impact observed on investments in livestock, an increase in savings and a reduction in borrowing (reported in Sections 5.3 and 5.4). Later, in Section 7.3, we will also show that the CDGP reduces the likelihood of households facing food shortages throughout the year, and reduces their need to resort to negative coping behaviours when this does happen. These results point to other dimensions of enhanced economic security caused by the CDGP, which may also partially help to explain the large impact on expenditure that we observe even after transfers have mostly come to an end in the sample of households in CDGP-communities.

Table 23: Expenditure

	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)	p-value
Monthly expenditure – '000 NGN‡							
Food+	2655	19.9	2.52**	2757	22.2	2.72**	0.89
		(20.0)	(1.21)		(20.8)	(1.13)	
Non-food++	2327	22.3	1.58	2593	25.0	2.08	0.76
		(22.3)	(1.16)		(24.6)	(1.29)	
Durables+++	3176	0.8	0.10	2808	0.8	0.25**	0.25
		(2.3)	(0.10)		(2.0)	(0.10)	
Total++++	3216	33.4	3.14*	2844	45.2	4.33**	0.61
		(36.8)	(1.78)		(39.4)	(1.96)	
	2250	42.9	4.11*	2517	47.3	4.02*	0.97

[60] Durables include assets like tables, mattresses, stoves, motorbikes, ploughs, etc.

Total (only complete observations)++++		(37.9)	(2.25)		(38.7)	(2.17)	

Source: CDGP baseline, midline, and endline survey data. Notes:

‡Values above the 99th percentile are converted to missing values. This includes zeros for households that report no expenditure.

+Monthly food expenditure is projected by reference to expenditure on food items in the seven days prior to the survey.

++Monthly non-durable expenditure is projected using:

- seven-day recall regarding consumable items (e.g. petrol, fuel, phone credit, cigarettes);
- 30-day recall regarding a different list of items (e.g. toiletries, clothing, utensils); and
- annual expenditure on larger items (e.g. dowry, marriage, funeral, school expenses, books).

+++Monthly durable expenditure is the sum of the reported annual expenditure on assets (e.g. table, mattress, motorbike, etc.).

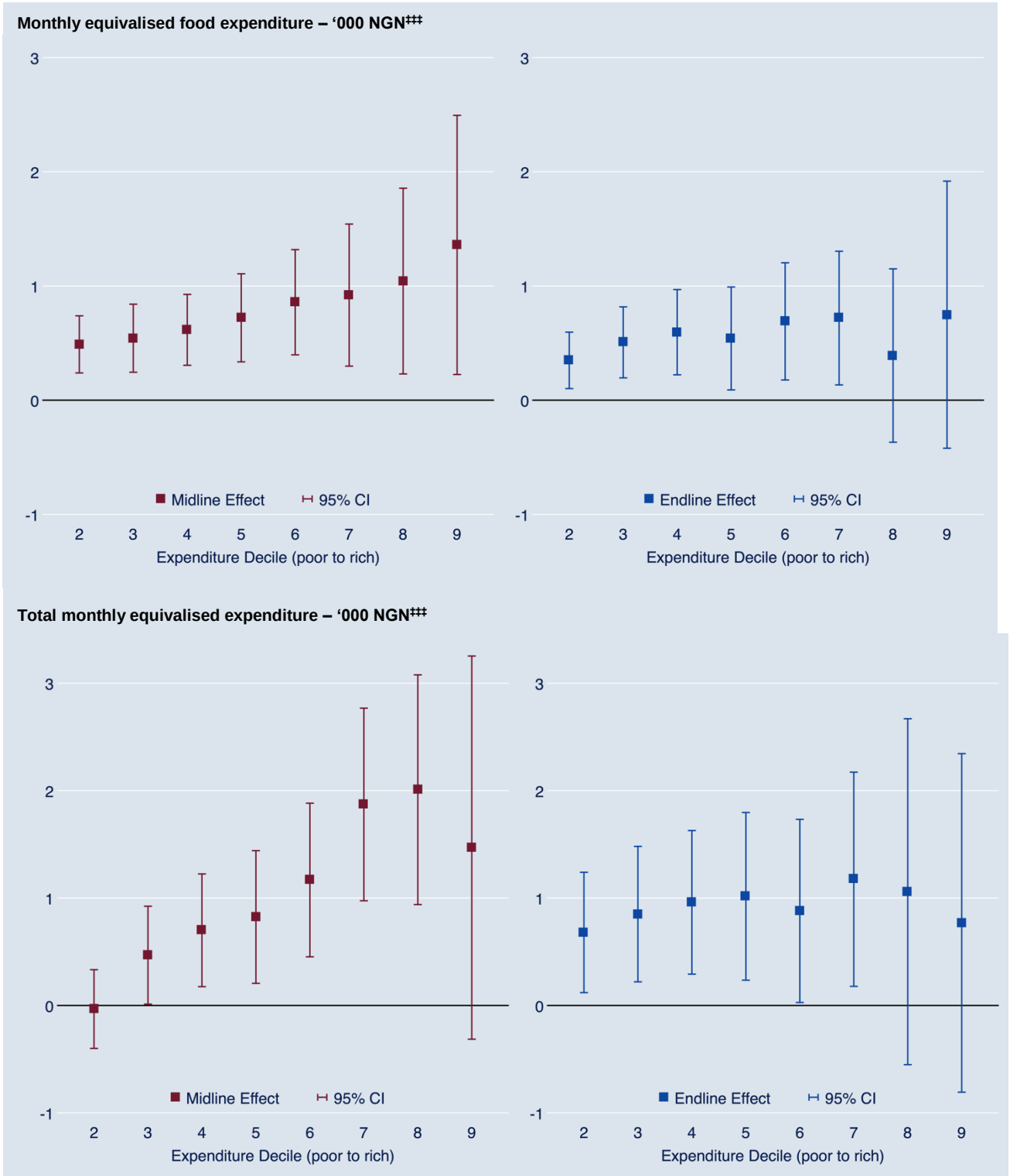
++++The first 'Total' row sums food, non-food, and durables expenditures considering all households for which at least one of the three is not missing in the data. The second 'Total' row instead considers only those households for which we observe all three categories.

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. ML-EL diff. = p-value of the difference between the effect at midline and at endline.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'ML-EL diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

We now examine how these impacts vary across the distribution of expenditure, shown in Figure 37. This figure reports the impact of the CDGP on monthly food and total expenditure, broken down by expenditure decile and ordered from the lowest expenditure (on the left), to the highest (on the right). We find that the effect of the CDGP on expenditure is positive throughout the distribution, as shown by the fact that the point estimate lies above zero in all cases. The size of the estimated impact of the CDGP becomes larger at higher levels of expenditure. However it is also less precisely estimated, with larger confidence intervals attached that cross over zero[61]. We therefore do not infer from this that there is evidence of an inequitable distribution of impacts of the CDGP according to wealth.

[61] If the confidence interval crosses zero (that is, overlaps with the horizontal black line on the figure), this means that we cannot claim there is an impact with 5% statistical significance (for households falling within that decile).

Figure 37: Effect of the CDGP on expenditure, broken down by decile



Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The chart depicts the effect of the CDGP on different deciles of the distribution of the outcome. For example, if the effect on the fifth decile (i.e. the median) is .1, it means that the median of the distribution has been shifted upwards by 10% of an SD due to the CDGP. For each decile, the square is the point estimate and the line is the 95% confidence interval.
3. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the horizontal black line*, which indicates zero effect.
4. 'Effect' is estimated by quantile regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level.

In Table 24 and Table 25 we document the programme impacts on different components of food expenditure in the seven days prior to the survey. We find that the programme led to an impact on the proportion of households buying different types of food across several different components of food expenditure. Results for expenditure are more imprecise, although there are still statistically significant impacts at endline on expenditures in almost half the food categories reported in these tables. The findings from these tables are visualised graphically in Figure 38 and Figure 39 Figure 39.

Table 24: Food expenditure – Percentage of households buying foods from different food groups

	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)	p-value
% of households spending anything in the past seven days on:							
Foods made from grains	2685	66.8	8.09***	2845	73.6	5.84***	0.45
			(2.48)			(2.11)	
Dark-green leafy vegetables	2687	42.2	2.43	2847	55.9	1.86	0.84
			(2.77)			(2.62)	
Potatoes and roots	2686	42.3	8.95***	2847	31.0	8.64***	0.94
			(2.96)			(2.44)	
Other vegetables	2686	70.3	-0.32	2847	68.6	4.82**	0.16
			(2.95)			(2.38)	
Fruit	2683	40.9	10.88***	2846	35.9	8.27***	0.48
			(2.61)			(2.77)	
Nuts and beans	2683	34.8	3.42	2847	41.4	2.57	0.81
			(2.69)			(2.57)	
Meat and eggs	2679	63.1	11.80***	2847	58.9	7.41***	0.15
			(2.22)			(2.58)	
Fish	2684	46.6	8.15***	2848	37.3	13.01***	0.20
			(2.92)			(2.97)	
Milk, cheese, and yoghurt	2682	47.0	10.11***	2847	43.2	12.87***	0.37
			(2.55)			(2.39)	
Oils and butter	2683	87.0	0.35	2847	85.2	3.25**	0.14
			(1.72)			(1.56)	
Condiments for flavour	2677	61.5	5.92**	2844	61.8	8.19***	0.52
			(2.48)			(2.39)	
Sugary foods and sweets	2677	43.9	8.22***	2845	40.3	9.46***	0.72
			(2.28)			(2.62)	
Drinks	2659	25.1	4.65*	2826	19.1	6.61***	0.49
			(2.45)			(2.04)	

Source: CDGP baseline, midline, and endline survey data. Notes: The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
1. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
2. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
3. ML-EL diff. = p-value of the difference between the effect at midline and at endline.
4. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
5. Both the 'Effect' and the 'ML-EL diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

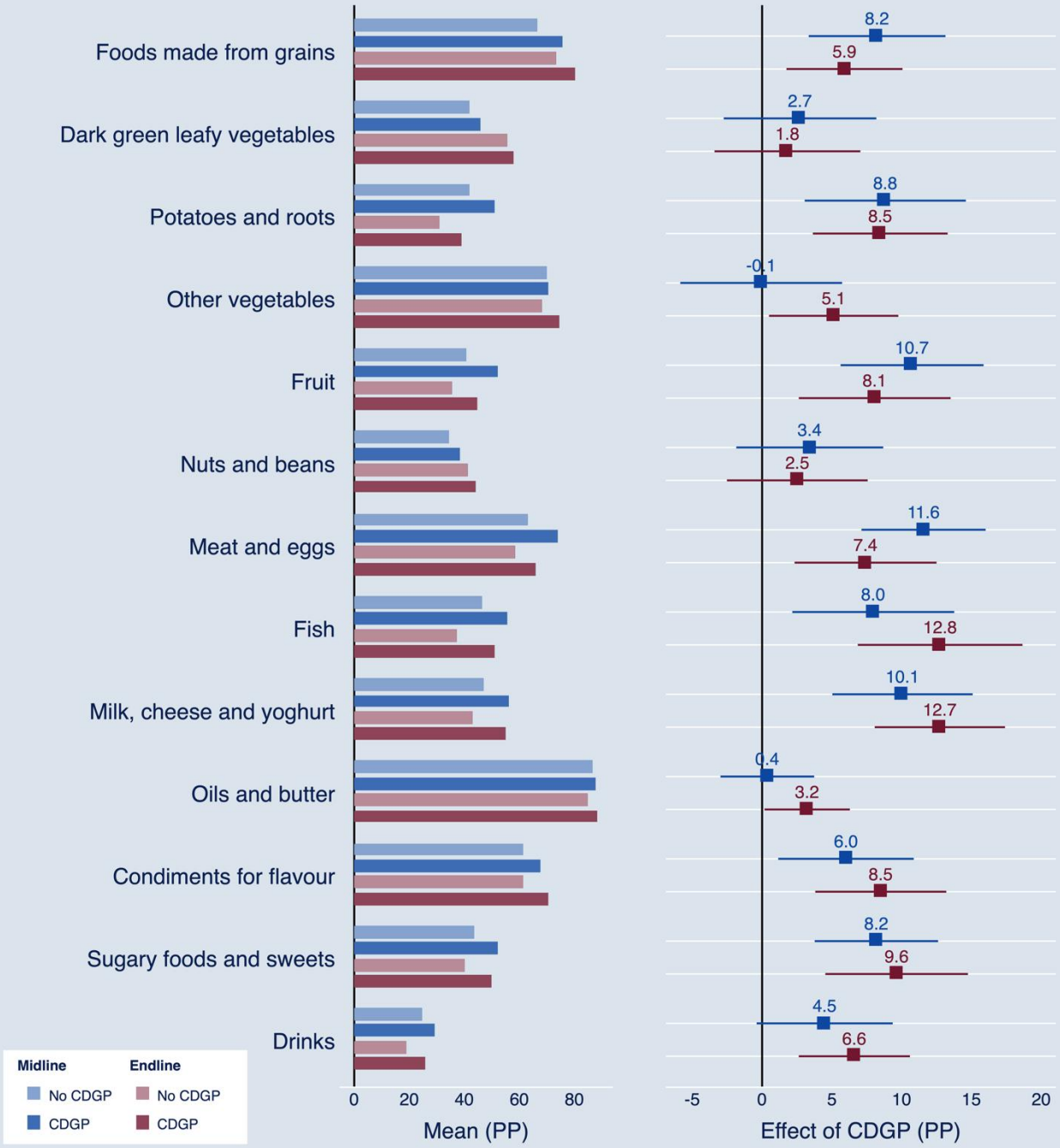
Table 25: Food expenditure – Amount spent on different food groups

	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)	p-value
Expenditure in the past seven days (NGN) †							
Foods made from grains	2659	1665.4	143.17	2770	2246.9	271.27	0.57
		(2685.7)	(143.22)		(3372.7)	(173.19)	
Dark-green leafy vegetables	2680	89.4	29.14**	2836	181.2	-12.57	0.05
		(201.5)	(11.81)		(392.3)	(17.76)	
Potatoes and roots	2672	369.6	20.55	2814	267.3	31.41	0.84
		(818.9)	(41.63)		(705.2)	(33.44)	
Other vegetables	2679	273.7	-11.71	2821	299.9	37.38	0.17
		(449.2)	(24.73)		(599.6)	(25.12)	
Fruit	2661	152.9	41.64**	2807	181.0	15.88	0.30
		(352.5)	(16.93)		(493.3)	(19.44)	
Nuts and beans	2672	230.7	-44.53	2831	221.8	35.62	0.10
		(1166.4)	(40.09)		(673.1)	(26.97)	
Meat and eggs	2639	824.1	50.37	2746	850.1	100.63	0.65
		(1527.4)	(75.13)		(1476.9)	(85.06)	
Fish	2668	233.7	54.21**	2815	220.6	56.27**	0.94
		(415.2)	(22.11)		(546.1)	(23.96)	
Milk, cheese, and yoghurt	2675	178.3	56.99***	2814	192.7	62.96***	0.81
		(372.7)	(18.73)		(400.5)	(19.16)	
Oils and butter	2672	608.9	46.09	2806	646.8	85.61**	0.49
		(694.0)	(42.73)		(960.4)	(42.39)	
Condiments for flavour	2664	203.8	19.32	2813	204.8	36.50*	0.49
		(321.0)	(16.12)		(373.5)	(18.76)	
Sugary foods and sweets	2667	80.4	15.28	2808	79.2	27.41***	0.40
		(229.9)	(9.37)		(190.8)	(9.65)	
Drinks	2648	101.8	14.48	2808	80.7	40.68***	0.19
		(271.8)	(15.77)		(278.7)	(15.05)	

Source: CDGP baseline, midline, and endline survey data. Notes: †Values above the 99th percentile are converted to missing values. This includes zeros for households who report not spending anything on each food group.

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. ML-EL diff. = p-value of the difference between the effect at midline and at endline.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'ML-EL diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

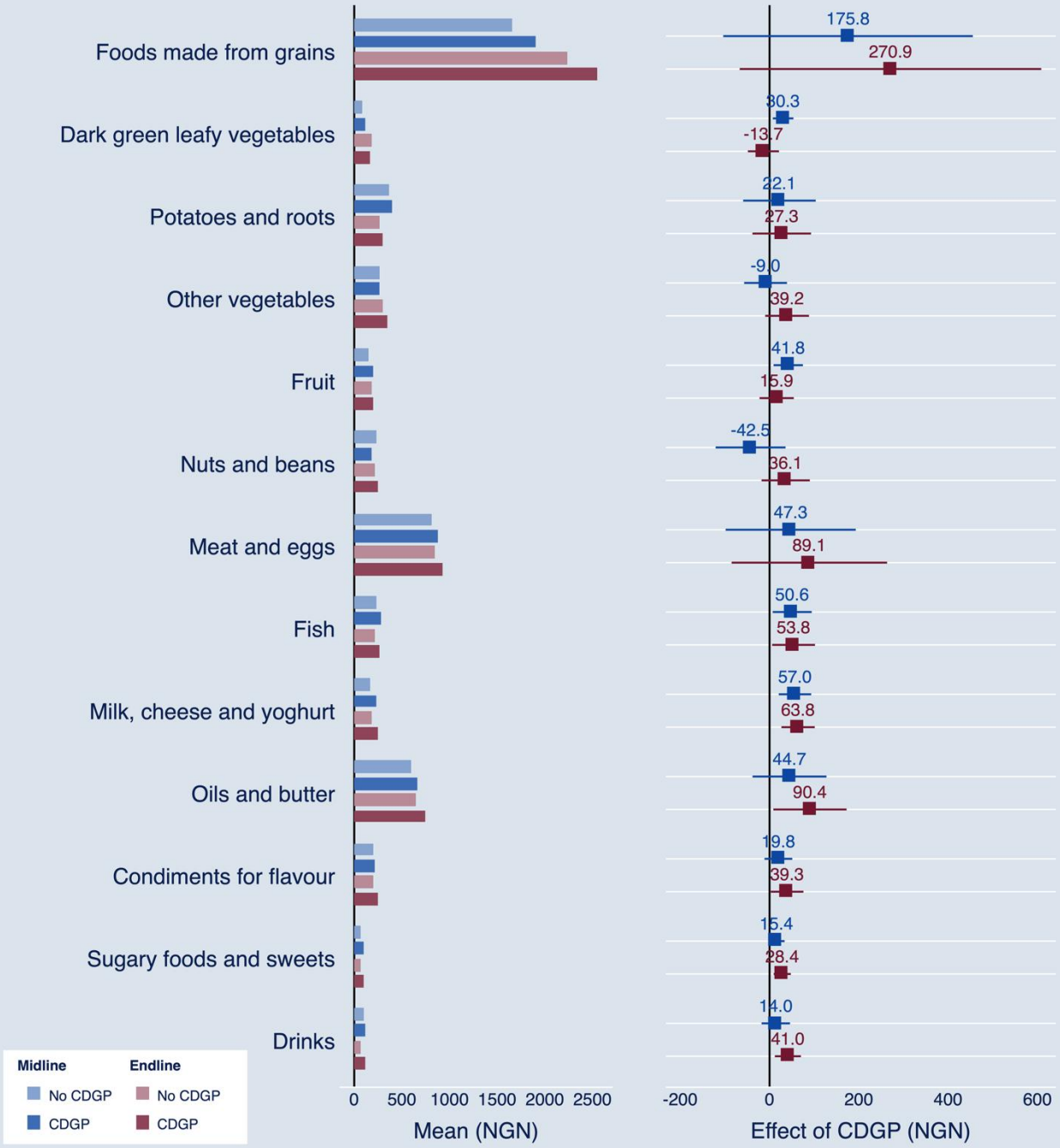
Figure 38: Effect of the CDGP on household food expenditure in the past seven days – Percentage of households buying foods from different food groups



Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The left panel shows unweighted estimates of mean levels in non-CDGP and CDGP communities, by wave. The right panel shows the effect of the CDGP, where the number and square are the point estimates and the line is the 95% confidence interval. The effect is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the vertical line*. The line indicates zero effect.
3. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.

Figure 39: Effect of the CDGP on household food expenditure in the past seven days – Amount spent on different food groups



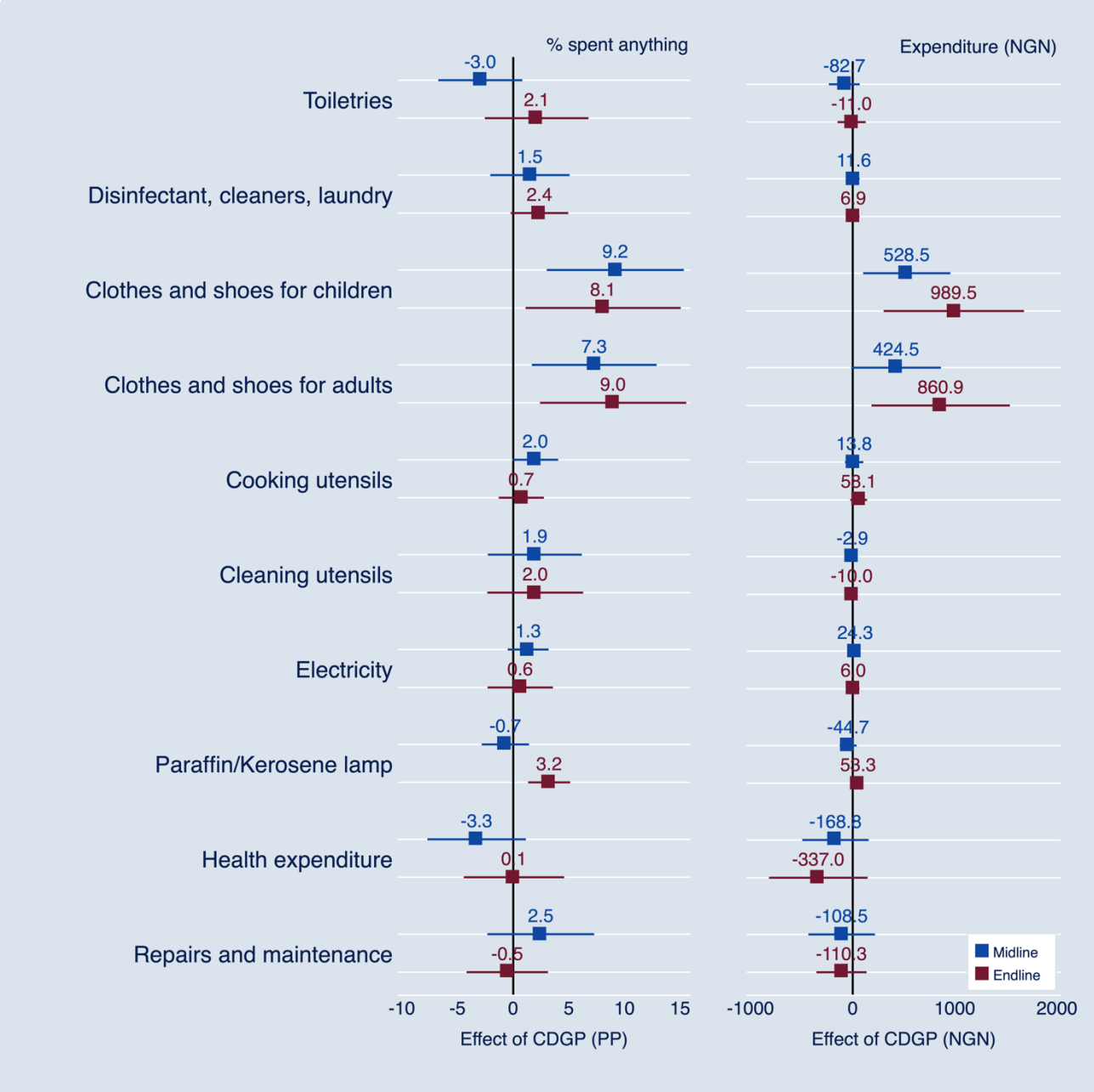
Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The left panel shows unweighted estimates of mean levels in non-CDGP and CDGP communities, by wave. The right panel shows the effect of the CDGP, where the number and square are the point estimates and the line is the 95% confidence interval. The effect is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the vertical line*. The line indicates zero effect.
3. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.

In Figure 40 we examine the impacts of the programme on different components of non-food expenditures (in the past 30 days). There are positive impacts across different categories but they

are only statistically significant for clothing and shoes, both for children and adults. On these dimensions, when we look at the actual expenditure amounts, the impacts are much larger in magnitude at endline than they were at midline.

Figure 40: Effect of the CDGP on household non-food expenditure in the past 30 days



Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The left and right panels show the effect of the CDGP, where the number and square are the point estimates and the line is the 95% confidence interval. The effect is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the vertical line*. The line indicates zero effect.
3. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.

7.3 Food security

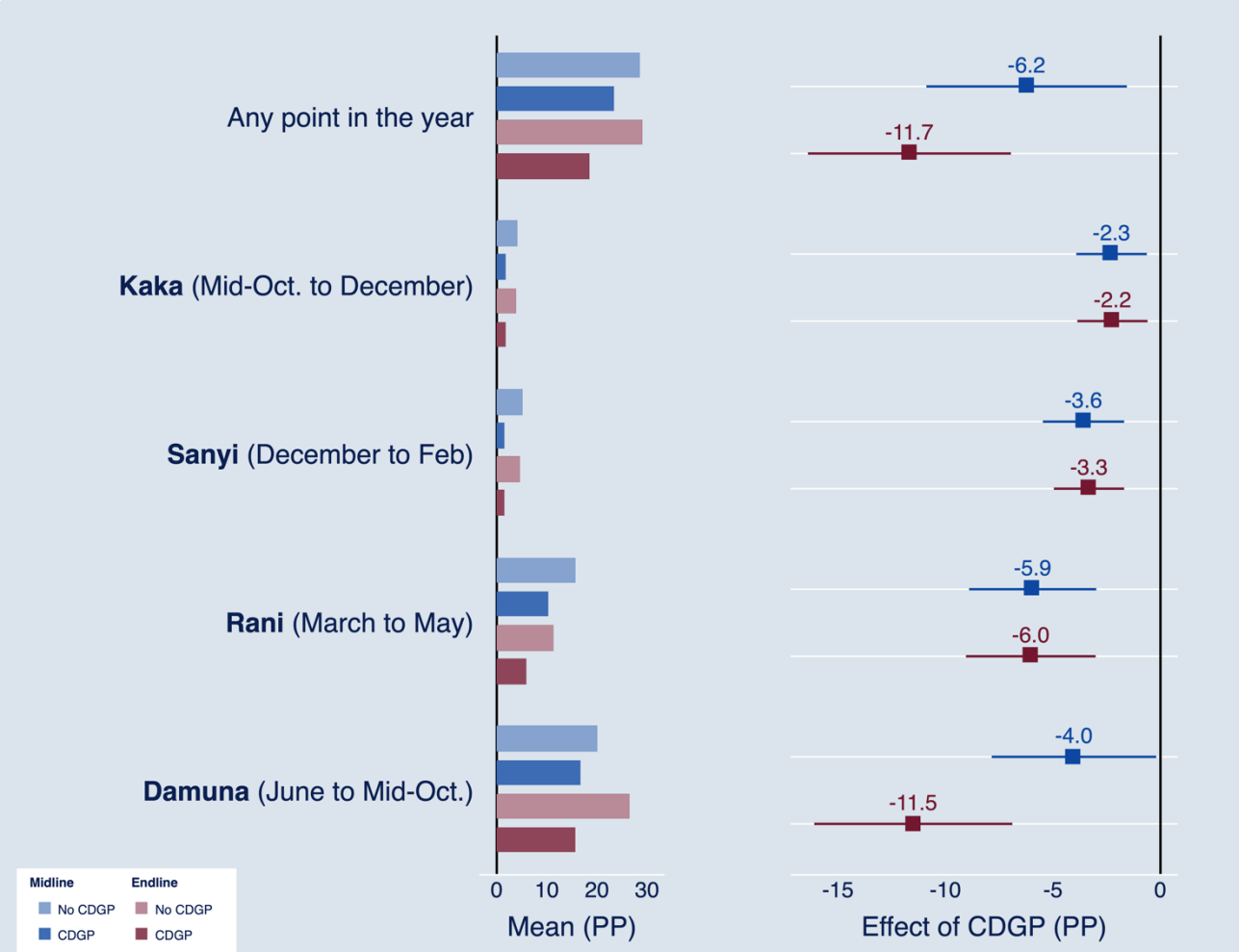
In this section we study the impacts of the CDGP on reported food security at the household level. Respondents were asked whether their household did not have enough food at any point during the previous year, and then by season. In line with the results on food expenditure, Figure 41 shows that there are positive impacts on household food availability across all seasons, with households in CDGP communities 11.7 percentage points less likely to suffer a food shortage at some point in the last 12 months. These impacts are larger in the seasons when hunger is more prevalent. The largest impact occurs during the damuna season (from June until October), when households in CDGP communities are 11.5 percentage points less likely to have experienced a food shortage. The impacts on food availability may be linked to the improvements in dietary diversity highlighted in Section 6.4 and the effects of the CDGP on food security. The qualitative midline report also found that the grant allows recipients to purchase more foods that are not produced in their community, thereby both reducing the seasonal variation in food diversity and smoothing food availability throughout the year (Sharp and Cornelius, 2017, p. 38).

The improvements in food security throughout the year are reflected in a reduced need to rely on coping mechanisms. Figure 42 shows the effect of the CDGP on the incidence of the most common coping mechanisms cited by respondents in cases where they did not have enough food. The CDGP has reduced households' need for external assistance: it has reduced the likelihood of households seeking help from friends and relatives during times of food shortage by 5.5 percentage points. It has also significantly decreased instances where family members have to take on more work or move away from the community to find work in order to be able to cope. Finally, it has reduced the need for households to sell their livestock (thereby giving up a productive asset) by 2.4 percentage points.

Table 26 shows the impact of the CDGP on the Household Hunger Scale (HHS), a measure of short-term food deprivation in the 30 days prior to the interview. We find that CDGP households are less likely to report that there was ever no food to eat of any kind in their household because of lack of resources in the 30 days prior to the survey. They are also less likely to report that a household member went to sleep hungry because there was not enough food. Responses to questions on access to food in the last 30 days are combined to form the composite HHS indicator, on which we also find a significant positive impact of the CDGP. Using this HHS to classify households into bands describing their ability to access sufficient food, we see an impact of around 8 percentage points on the proportion of households who are classified as facing 'little to no household hunger' in the 30 days preceding the survey. This is 86% of households in non-CDGP communities, compared with 94% of households in CDGP communities.

At endline, in CDGP villages there are almost no households in a situation of severe household hunger. Altogether, the impacts on household hunger are generally larger at endline than they were at midline. However, relative to the midline, the endline survey seems to have occurred during a time of more food scarcity – at the end of damuna.

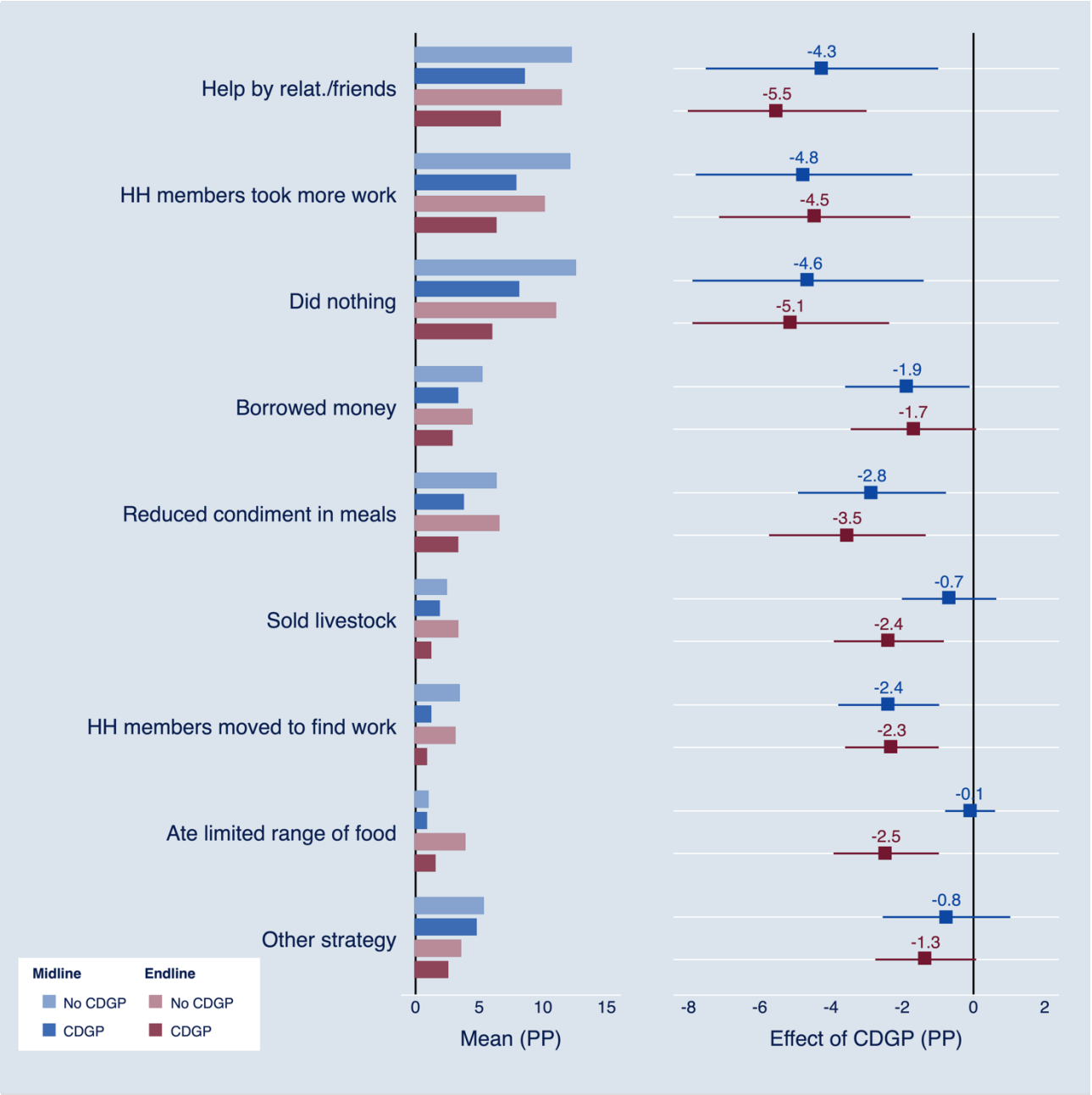
Figure 41: Effect of the CDGP on household food availability – Percentage of households without enough food during the past 12 months



Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The left panel shows unweighted estimates of mean levels in non-CDGP and CDGP communities, by wave. The right panel shows the effect of the CDGP, where the number and square are the point estimates and the line is the 95% confidence interval. The effect is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the vertical line*. The line indicates zero effect.
3. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.

Figure 42: Effect of the CDGP on household coping mechanisms



Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The left panel shows unweighted estimates of mean levels in non-CDGP and CDGP communities, by wave. The right panel shows the effect of the CDGP, where the number and square are the point estimates and the line is the 95% confidence interval. The effect is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the vertical line*. The line indicates zero effect.
3. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.

Table 26: Household hunger

	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)	p-value
A – In the past 30 days, was there ever no food to eat of any kind in your household because of lack of resources to get food?							
Yes (%)	3118	16.6	-4.43***	2807	19.6	-9.39***	0.02
			(1.60)			(1.92)	
B – In the past 30 days, did you or any household member go to sleep at night hungry because there was not enough food?							
Yes (%)	3118	8.2	-2.34**	2807	11.2	-6.04***	0.01
			(1.16)			(1.34)	
C – In the past 30 days, did you or any household member go a whole day and night without eating anything at all because there was not enough food?							
Yes (%)	3118	3.6	-0.91	2807	8.8	-4.84***	0.01
			(0.83)			(1.42)	
D – In the past 30 days, did you ever reduce the number of meals you ate per day because there was not enough food?							
Yes (%)	3118	24.3	-7.07***	2807	26.4	-10.96***	0.16
			(2.19)			(2.36)	
HHS+	3118	0.3	-0.09**	2807	0.5	-0.28***	0.00
		(0.8)	(0.04)		(1.1)	(0.05)	
% experiencing little to no household hunger (HHS = 0 or 1)	3118	91.0	2.90**	2807	86.3	8.03***	0.00
			(1.24)			(1.58)	
% experiencing moderate household hunger (HHS = 2 or 3)	3118	8.3	-2.80**	2807	10.1	-5.24***	0.13
			(1.16)			(1.39)	
% experiencing severe household hunger (HHS = 4, 5, or 6)	3118	0.7	-0.11	2807	3.6	-2.81***	0.00
			(0.37)			(0.84)	

Source: CDGP baseline, midline, and endline survey data. Notes: †Values above the 99th percentile are converted to missing values. This includes zeros for households who report not spending anything on each food group.

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. ML-EL diff. = p-value of the difference between the effect at midline and at endline.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'ML-EL diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

+The HHS is calculated using questions A, B, and C above. A score of 0 for each of these questions is attributed if the respondent reports 'No' to the main question, a score of 1 is attributed if the respondent reports 'Rarely' or 'Sometimes' to the following question, and a score of 2 is attributed for 'Often'. The scores are then added together to obtain the HHS, which therefore ranges from 0 to 6.

The HHS is a short-term acute indicator of food security because it has a 30-day recall period. It can therefore change from season to season. Caution should be applied in comparing the midline results directly with the endline results because the midline interviews were carried out a few weeks later in the year than the endline interviews.

7.4 Household drinking water and sanitation

In this section we look at the effect of the CDGP on households' access to clean drinking water and toilet facilities. At midline, we did not find an impact of the CDGP on households' source of drinking water at midline. However, at endline we observe a positive impact of the CDGP on the percentage of households with an 'improved' water source, as well as a reduction in the proportion of households using an unprotected dug well. We also see that the CDGP has led to a statistically significant increase in the use of an 'improved' toilet facility, which is an impact that has persisted since midline. These changes in access to improved sanitation facilities are consistent with the improvements in child health (particularly around the incidence of diarrhoea) that we will show in Section 9.2.

Table 27: Water and sanitation

	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)	p-value
Main source of drinking water							
% using tubewell/borehole	3223	37.5	5.23	2849	38.6	5.11	0.97
			(4.09)			(3.84)	
% using unprotected dug well	3223	24.3	1.64	2849	22.3	-5.17*	0.02
			(2.95)			(2.68)	
% using public tap/standpipe	3223	9.9	-1.04	2849	13.1	4.36	0.11
			(1.75)			(2.87)	
% using protected dug well	3223	9.6	-1.68	2849	10.1	-0.97	0.76
			(2.19)			(1.75)	
% using surface water	3223	11.4	-4.03	2849	8.1	-2.76	0.46
			(2.59)			(1.84)	
% using piped water to yard/plot	3223	4.9	0.08	2849	5.2	-0.42	0.68
			(1.67)			(1.26)	
% using other sources	3223	2.4	0.75	2849	2.6	0.71	0.98
			(1.64)			(0.82)	
% of households with improved water source+	3223	62.2	2.85	2849	68.9	7.99***	0.18
			(3.36)			(3.06)	
Type of toilet used by household members							
% using pit latrine without slab/open pit	3223	71.6	-4.11	2849	69.6	-3.39	0.80
			(2.68)			(2.52)	
% using no facilities / bush / field	3223	13.8	-0.04	2849	12.8	-0.74	0.70
			(2.04)			(1.77)	
% using pit latrine with slab	3223	13.7	2.92	2849	15.4	3.46*	0.82
			(2.04)			(1.95)	
% using other type of toilet	3223	0.9	1.15**	2849	2.2	0.57	0.47
			(0.53)			(0.88)	
% of households with improved toilet facility++	3223	14.6	4.01*	2849	17.3	4.00*	1.00
			(2.12)			(2.12)	
	3223	59.8	0.32	2849	66.5	2.27	0.47

% with toilet facility for household members only			(2.48)			(2.46)	

Source: CDGP baseline, midline, and endline survey data. Notes:
1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. ML-EL diff. = p-value of the difference between the effect at midline and at endline.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'ML-EL diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

[+]'Improved' drinking water sources are: piped water into a dwelling, piped water into a yard/plot, public tap/stand/pipe, tubewell/borehole, protected dug well, protected spring, bottled/sachet water, and collected rainwater (WHO and UNICEF, 2006).
[++]Improved' toilet facilities are: a flush toilet, a ventilated improved pit latrine, a pit latrine with a slab, and a composting toilet (WHO and UNICEF, 2006).

7.5 The Progress out of Poverty Index (PPI)

In this section we consider the impact of the CDGP on PPI scores. The PPI (Chen, Schreiner, and Woller, 2008) is a poverty measurement tool that was originally developed in Nigeria in 2003/04. It combines information from 10 questions about household composition, assets, and dwelling features into an overall index ranging from 0 to 100 points, where higher scores indicate greater household wealth.[62] The index was updated in 2012/13 (Schreiner, 2015). The updated version includes some different questions to measure poverty and so results from the two versions of the PPI should not be directly compared. Table 28 shows that the CDGP has led to a significant improvement in household PPI scores. At endline, this impact is statistically significant even when we use the 2003/04 version of the index. We then consider how impacts vary across the distribution of PPI scores. Figure 43 suggests there is a slight tendency for the impacts to be larger among households with higher scores to begin with, however when broken down by decile, the precision of the results is less strong and we observe wide confidence intervals attached. We also observe a large impact on households in the lowest PPI decile, thus the trend is not entirely clear.

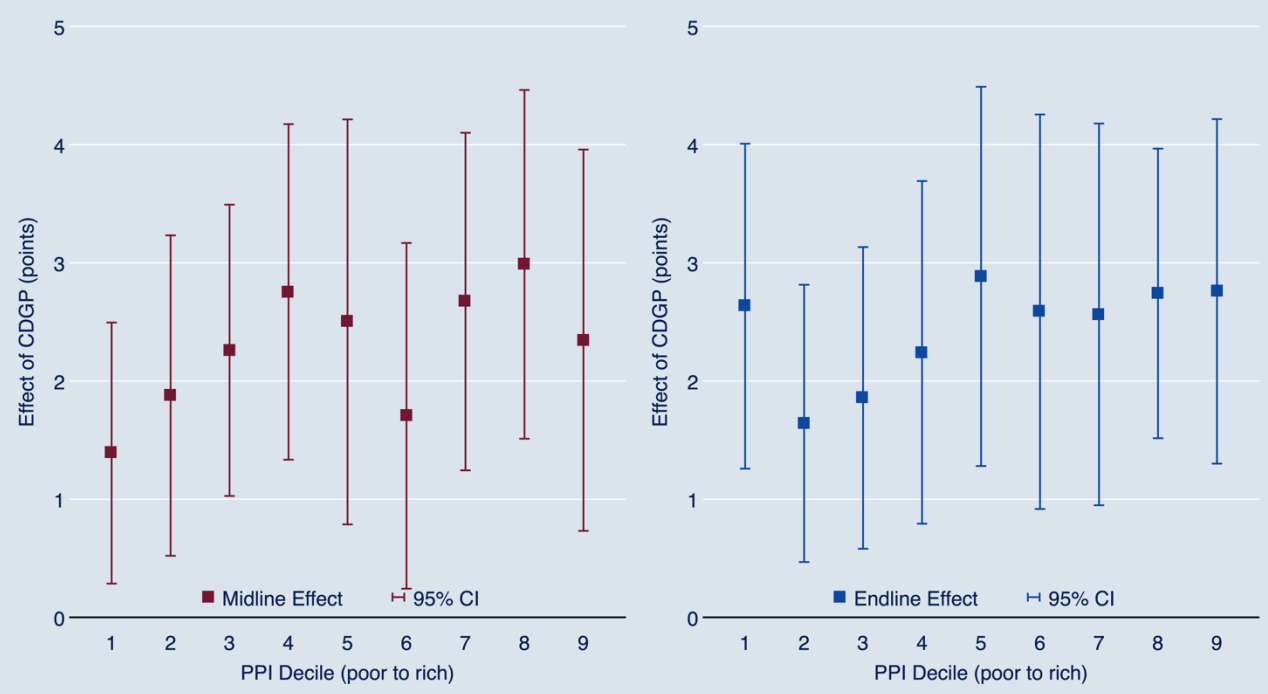
[62] For details on how this score is calculated, see Section 11 in Volume II.

Table 28: PPI

	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)	p-value
Household PPI score 2003/04	3225	26.0	0.70	2863	24.7	1.48***	0.16
		(11.8)	(0.54)		(11.4)	(0.57)	
Household PPI score 2012/13	3225	38.5	2.24***	2850	36.9	2.39***	0.78
		(11.8)	(0.61)		(11.6)	(0.63)	

Source: CDGP baseline, midline, and endline survey data. Notes:
1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. ML-EL diff. = p-value of the difference between the effect at midline and at endline.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'ML-EL diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Figure 43: Effect of the CDGP on PPI scores, broken down by decile



Source: CDGP baseline, midline, and endline survey data. Notes:
1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The chart depicts the effect of the CDGP on different deciles of the distribution of the outcome. For example, if the effect on the fifth decile (i.e. the median) is .1, it means that the median of the distribution has been shifted upwards by 10% of an SD due to the CDGP. For each decile, the square is the point estimate and the line is the 95% confidence interval.
3. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the horizontal black line*, which indicates zero effect.
4. 'Effect' is estimated by quantile regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level.

8 Impact of the CDGP on women's nutritional status

Key findings

On the whole, there is little evidence of any effect of the CDGP on women's nutritional status, as measured by height, weight, BMI, and MUAC.

We do find a surprising result; that **women in CDGP communities appear more likely to have BMI measures outside the normal range**, and to be classified as 'thin' on this basis. We are not able to fully explain this finding. Some respondents in the qualitative endline evaluation had noted a concern about being able to maintain the diverse diets their households were able to enjoy under the CDGP when the cash came to an end. The small increase in women recorded as 'thin' in CDGP communities may be related to women in CDGP communities being more likely to reallocate resources in the household toward their children, resulting in less for themselves. We are not able to verify this potential mechanism, however. We do note though that this negative impact is relatively small in size, and only weakly statistically significant, so we would apply caution in inferring too much from this.

The inability of the CDGP to positively impact women's nutritional status may reflect the greater emphasis of the SBCC component on promoting the health and nutrition of young children, rather than adults. Effects on women's nutritional status lie slightly beyond the core objectives of this programme, so the lack of results we see in this domain is not altogether surprising.

8.1 Women's nutritional status

In this section we document the impact of the CDGP on the nutritional status of women, as measured by anthropometrics measures. Since pregnancy status affects anthropometric measurements, we report the results of women who were pregnant at the time of the endline interview and those who were not pregnant separately.

Overall, as shown in Table 28, we find little evidence of a change in women's anthropometrics due to the CDGP. There are no effects on MUAC for either pregnant or non-pregnant women at endline, or in the proportion classified as malnourished. One surprising dimension of change is that women are significantly more likely to be thinner in CDGP communities at endline, as measured by having a BMI outside the normal range. The magnitude of this impact is relatively modest, at only 4 percentage points, and the statistical significance of this result is also fairly weak. In Volume II we also present a table showing women's anthropometrics for a slightly different sample of women (those who were not pregnant at baseline or endline, but who may have been pregnant during the midline survey). We observe similar results when considering this sample.
We do not have direct evidence for what may have caused this. One possibility, which we cannot verify, is that the CDGP may have led to an increasing share of household resources being allocated toward children, due to the effects of exposure to the CDGP's messages about child health. Once the cash ends, women may find that they need to consume less themselves in order to maintain levels of dietary diversity for their children. In the qualitative endline, some respondents had expressed concern that they would struggle to maintain the quality of their diets when the cash ended, and these results may be a reflection of this (Sharp, Cornelius, and Gadhavi, 2018). Nevertheless, in interpreting this finding, we stress that it is fairly modest in size and so we would therefore recommend applying some caution in how far this is emphasised.

The inability of the CDGP to positively impact women's anthropometrics is consistent with the quantitative midline evaluation results. We do not think this finding is altogether surprising given

that impacts on women's nutritional status lie slightly beyond the core impact objectives of the CDGP, which are focused on the health and nutrition of children. This is reflected in the balance of messages provided in the SBCC component, which also emphasise messages around the health and nutrition of children. In this sense, the CDGP's inability to positively shift observable nutrition outcomes for adult women is not unexpected.

Table 29: Women's anthropometrics, women not pregnant at endline or midline

	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)	p-value
Weight	1431	49.8	-0.38	1441	50.9	-0.41	0.90
		(7.3)	(0.26)		(8.4)	(0.29)	
Height	1431	157.2	-0.04	1439	157.2	0.12	0.08
		(5.6)	(0.10)		(5.5)	(0.10)	
BMI	1431	20.1	-0.14	1439	20.6	-0.18	0.63
		(2.6)	(0.10)		(3.0)	(0.11)	
% who are classed as thin (BMI<18)	1431	27.9	2.09	1439	22.4	4.33*	0.32
			(2.43)			(2.23)	
% who are classed as normal (18<BMI<25)	1431	66.5	-2.26	1439	69.7	-4.43*	0.39
			(2.80)			(2.50)	
% who are classed as overweight (BMI>25)	1431	5.6	0.36	1439	7.9	0.33	0.98
			(1.27)			(1.35)	
MUAC	1399	252.9	-1.00	1409	256.8	0.49	0.17
		(25.0)	(0.99)		(25.8)	(1.28)	
% who are classed as malnourished *Def.1: MUAC < 220*	1399	7.1	1.95	1409	6.7	0.80	0.42
			(1.28)			(1.29)	
% who are classed as malnourished *Def.1: MUAC < 230*	1399	17.6	1.94	1409	14.4	0.54	0.53
			(1.93)			(1.83)	

Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014, and were not pregnant at either the midline or the endline. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. ML-EL diff. = p-value of the difference between the effect at midline and at endline.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'ML-EL diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

9 Impact of the CDGP on child health and development

In this section we examine the impact of the CDGP on children's health and nutritional status. Impacts we observe on the midline child help to understand whether the effects we first observed at the time of the midline survey have persisted or changed for this same child as they have got older. Effects we observe for the 'endline' child then show whether any effects are also observed for younger children; this gives an indication of whether changes due to the CDGP are sustained for younger siblings.

Key findings

A key question of interest for the endline study is **whether impacts that we observed at midline for children who were of an eligible age range to be directly exposed to the CDGP are sustained at endline.** We find this to be the case for many of the indicators measured. There is continued evidence that the CDGP has led to **investments in child health that go above and beyond nutrition**. The programme has led to positive **impacts on the uptake of vaccinations**, **the incidence of diarrhoea and recent illnesses or injuries among children, and the proportion of children given deworming medication in the last six months**. It has also led to a **positive impact on the proportion of children aged four to eight who are currently attending school**, of around 6 percentage points.

The CDGP has achieved its high-level impact objective of **reducing stunting among the older children in our sample,** who were first measured at midline. This impact has been sustained since the midline period, when we first documented evidence of a positive impact on reducing stunting for this sample of children. There is no impact on **weight-for-height or weight-for-age** for this sample.

Turning to the sample of 'endline' children, who are generally the younger siblings of children who were directly exposed to the CDGP after the baseline, we find similarly positive impacts on the uptake of vaccinations and other positive health outcomes. This is an important finding as it shows that **investments in health are sustained for younger siblings of initially-exposed children, even once the transfers have ended.** This may point to an effect of the SBCC component of the CDGP in promoting changed practices regarding child health, even after cash transfers cease (or it might capture the persistent impacts of the cash transfers, for example if they increase business revenues in the longer term). However, we do not detect any impacts in anthropometric outcomes for this sub-sample, in either stunting, wasting, or underweight measures. Thus, **the impacts of the CDGP on anthropometric outcomes do appear too rely on direct exposure to the intervention.**

We find no impact of the CDGP on improving other measures of child development, considering gross motor, communication, and personal-social skills, as measured by the ASQ® indicators.

9.1 Children's health

The CDGP has led to investments in child health that extend beyond nutrition. Figure 44 reports the impact on the uptake of vaccinations for the older ('midline') child in our sample. Consistent with our results at the time of the midline, we find that the CDGP has had a positive impact on whether children have received the following immunisations: BCG, polio, DPT, measles, hepatitis B, and yellow fever. Figure 45 shows that similar impacts also arise for the 'endline' child, pointing to a sustained effect of the programme in increasing the uptake of immunisations.

The CDGP SBCC component does not directly seek to promote the uptake of vaccinations per se. Thus the effects we observe may be due to expanded resources, through the cash transfer,

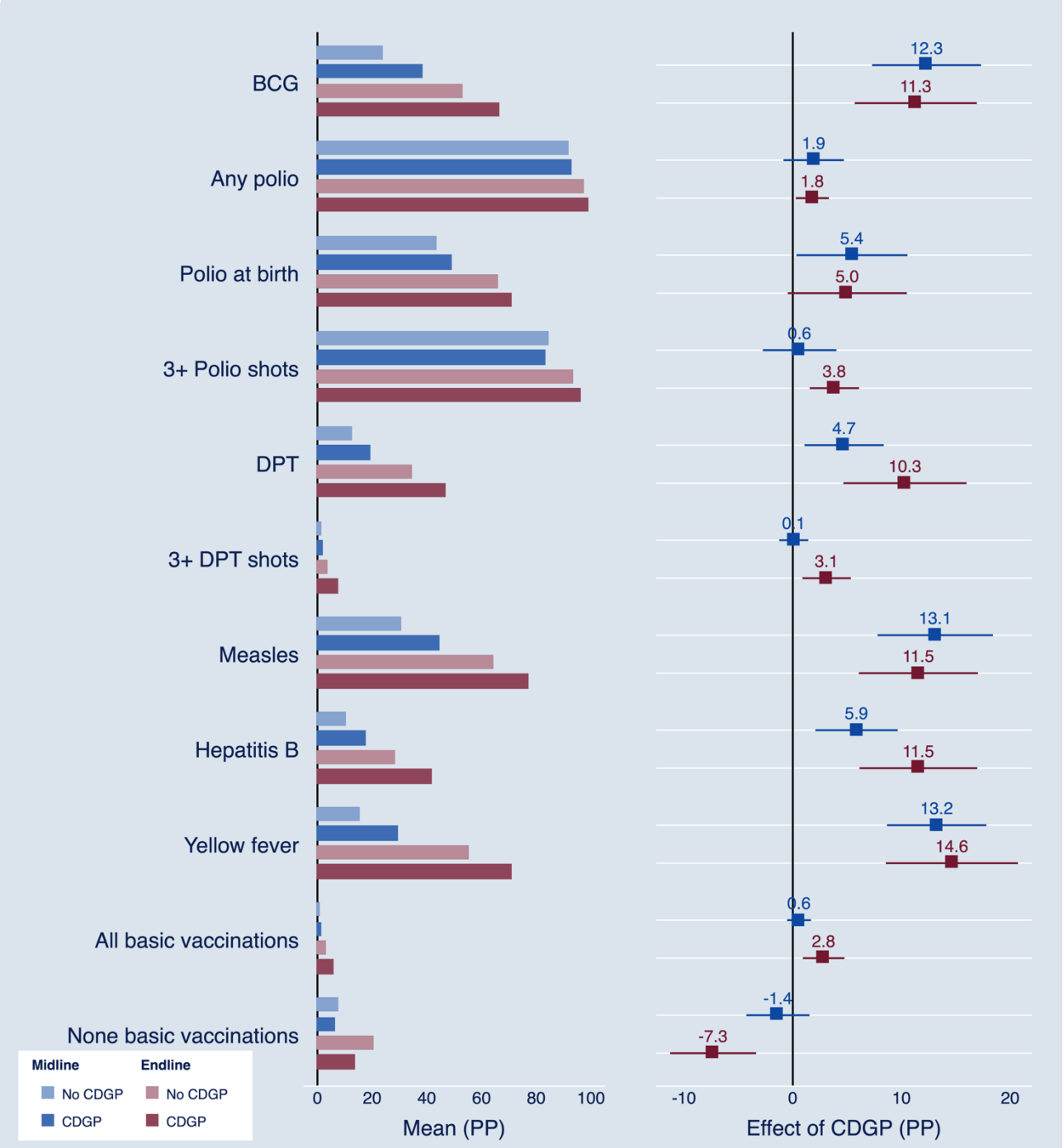
enabling households to invest more in visits to health facilities to obtain vaccinations. The increase in the uptake of vaccinations could also be the result of a generalised effect of the SBCC on increasing investments in child health, which could in itself lead to increased demand for vaccination. The qualitative endline report detailed how the use of health facilities generally has increased in CDGP communities. Some respondents in the qualitative research pointed to an independent effect of the cash in enabling this, saying that the transfer helped mothers to attend facilities earlier on, rather than delaying (Sharp, Cornelius, and Gadhavi, 2018).

Beyond immunisations uptake, Table 30 and Table 31 show that the CDGP has also led to a range of other positive health outcomes for children. In CDGP communities both the 'midline' and 'endline' children are more likely to have received deworming treatment, less likely to have sustained a recent injury or illness, and less likely to have had diarrhoea. They are also more likely to have received adequate care when they do have diarrhoea. For the 'midline' child, we find that the magnitude of these impacts is even larger than first observed in the midline period. Yet in spite of these improvements the incidence of diarrhoea remains high, with around one-third of children in our sample having suffered from diarrhoea in two weeks preceding the survey.

The impact of the CDGP on reducing the incidence of diarrhoea is consistent with some of the other findings detailed in this report, including improvements in households having access to an improved water source (see Section 7.4), and increases in the uptake of exclusive breastfeeding among children aged zero to six months (see Section 6.2). A link between exclusive breastfeeding and diarrhoea was also noticed by respondents in the qualitative midline and endline studies, who reported observing fewer episodes of diarrhoea in their children after introducing exclusive breastfeeding (Sharp and Cornelius, 2017, p. 40), (Sharp, Cornelius, and Gadhavi, 2018). General improvements in hygiene practices around the home may also be part of the explanation. The qualitative endline found evidence of increased adoption of a number of positive practices, including hand-washing, covering food, keeping utensils clean, and draining stagnant water around the house. This echoes the messages provided in the SBCC, particularly in relation to 'Key Message 4' in its curriculum (See Box 3). Respondents for the qualitative endline also reported that these are low-cost behaviours that they felt could be easily sustained even after the cash ended. This may help explain why the quantitative results show reduced diarrhoea for the 'endline' child, for whom households in CDGP communities are mostly no longer receiving transfers.

The general reduction in injury and illness that we find is less directly related to the key messages of the CDGP SBCC. This suggests that participating in the CDGP can have broad impacts in the lives of children and their households, beyond the nutrition-related impacts that are the programme's direct focus.

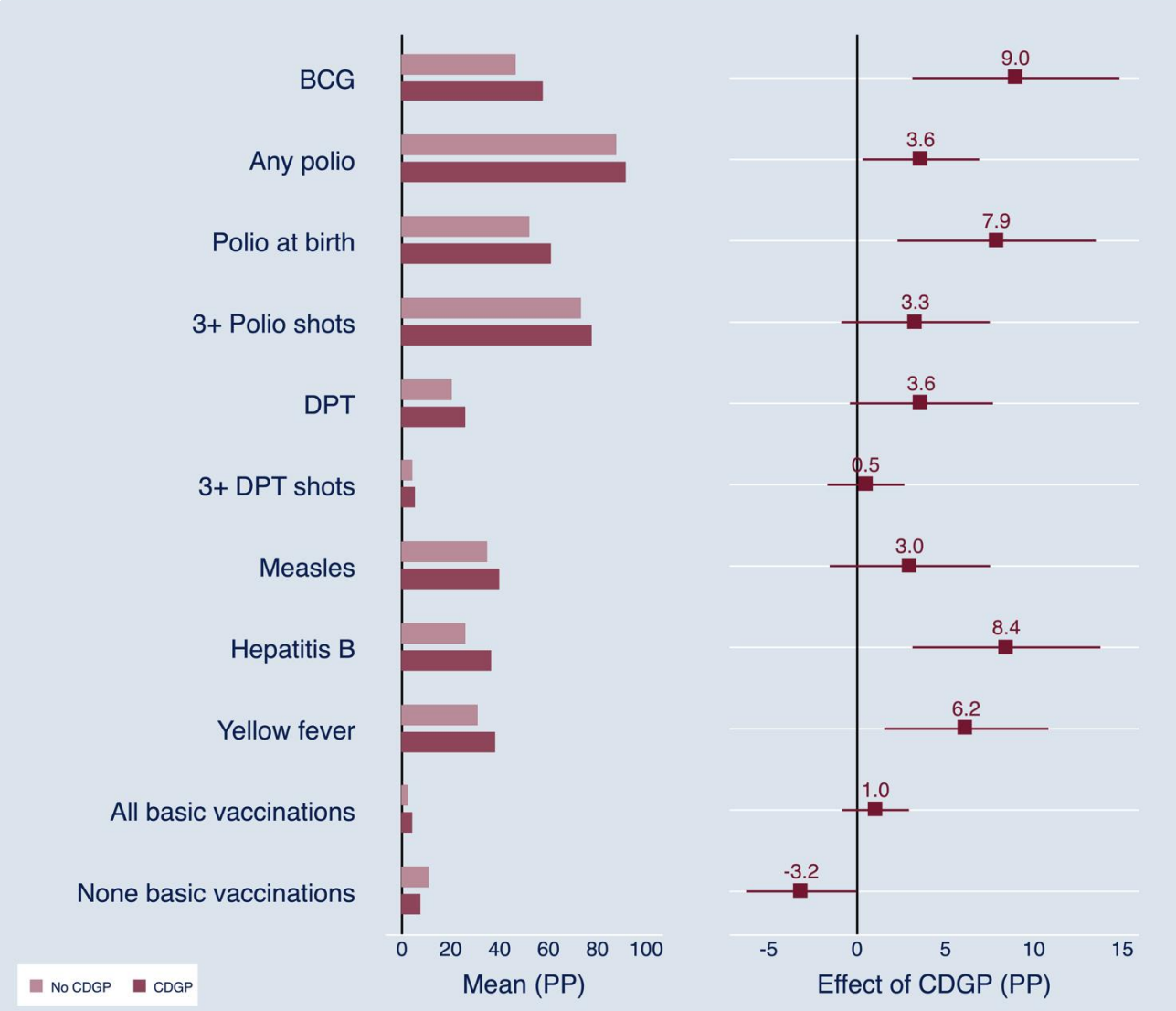
Figure 44: Effect of the CDGP on the vaccination of midline children (born after the baseline, before the midline)



Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The left panel shows unweighted estimates of mean levels in non-CDGP and CDGP communities, by wave. The right panel shows the effect of the CDGP, where the number and square are the point estimates and the line is the 95% confidence interval. The effect is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). In addition, we control for child gender and age in months. SEs are clustered at the village level. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the vertical line*. The line indicates zero effect.
3. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.

Figure 45: Effect of the CDGP on the vaccination of endline children (born after the midline, before the endline)



Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The left panel shows unweighted estimates of mean levels in non-CDGP and CDGP communities, by wave. The right panel shows the effect of the CDGP, where the number and square are the point estimates and the line is the 95% confidence interval. The effect is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). In addition, we control for child gender and age in months. SEs are clustered at the village level. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the vertical line*. The line indicates zero effect.
3. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.

Table 30: Health and treatment for midline children (born after the baseline, before the midline)

	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)	p-value
% of children given deworming medication in the past six months	2656	16.4	8.02***	2186	36.6	12.13***	0.31
			(2.43)			(2.92)	
% of children who had an illness or injury in the past 30 days	2714	69.6	-8.53***	2207	73.2	-12.02***	0.27
			(2.36)			(2.39)	
% of children who had diarrhoea in the past two weeks	2712	37.8	-6.90***	2203	31.6	-9.30***	0.42
			(2.21)			(2.36)	
% of children for whom someone sought advice or treatment for the diarrhoea (among children who had diarrhoea in the past two weeks)	895	78.3	6.88**	556	79.4	7.57**	0.89
			(3.02)			(3.52)	
% of children given oral rehydration solution (ORS) for diarrhoea (among children who had diarrhoea in past two weeks)	894	40.8	10.31**	557	49.1	14.12***	0.53
			(4.03)			(4.77)	

Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. ML-EL diff. = p-value of the difference between the effect at midline and at endline.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'ML-EL diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). In addition, we control for child gender. SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Table 31: Health and treatment for endline children (born after the midline, before the endline)

	Endline		
	N	Non-CDGP mean (SD)	CDGP effect (SE)
% of children given deworming medication in the past six months	1870	21.0	10.45***
			(2.13)
% of children who had an illness or injury in the past 30 days	1885	63.3	-8.57***
			(2.62)
% of children who had diarrhoea in the past two weeks	1885	32.4	-6.35**
			(2.58)
% of children for whom someone sought advice or treatment for the diarrhoea (among children who had diarrhoea in the past two weeks)	536	81.1	1.27
			(3.62)
% of children given ORS for diarrhoea (among children who had diarrhoea in past two weeks)	537	43.9	14.01***
			(4.93)

Source: CDGP baseline, midline, and endline survey data. Notes:
1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
5. The 'Effect' is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). In addition, we control for child gender. SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

9.2 Children's nutritional status

This section reports the impact of the CDGP on children's nutritional status, measured by anthropometric indicators. Anthropometric indicators are based on observed physical body measurements, such as height or weight. In the technical compendium that accompanies this report, we provide further detail on the methods and specialist equipment used to obtain these measurements.

We report on four primary indicators: weight-for-height, height-for-age, weight-for-age, and MUAC. Each of these indicators provides different information about growth and body composition, which can be used to assess nutritional status. Weight-for-height and MUAC are indicators of wasting that are often used to understand nutritional status in the context of emergency famine situations. In other words, they are good indicators of *acute* malnutrition. In contrast, height-for-age is used to diagnose longer-term *chronic* malnutrition. The tables below indicate that chronic malnourishment affects a very large share of children in the sample, whereas acute malnutrition is relatively less prevalent.

In order to determine if a child is acutely or chronically malnourished, a child's anthropometric measurements are compared to the international growth standards published by the WHO in 2006. These growth standards were collected in the WHO Multicentre Growth Reference Study, which was designed to be used as the gold-standard approach to the assessment of child growth internationally (WHO, 2006). Each of the weight-for-height, height-for-age, and weight-for-age indicators are expressed in SD units (or a Z-score) from the median of the Multicentre Growth Reference Study sample of children of the same age and sex. This gives the weight-for-height Z-score (WHZ), height-for-age Z-score (HAZ), and weight-for-age Z-score (WAZ). The estimated

nutritional status of the survey population is expressed as the proportion of children with Z-scores below a certain cut-off point (WHO, 1995, p. 161). The anthropometric indicators we use in this report are further described in Box 5 below.

Box 5: Anthropometric indicators used in this report

Weight-for-height reflects body weight relative to height. Having a low weight-for-height is referred to as **wasting** and is attributed to **acute malnutrition**, which is a 'recent and severe process that has led to significant weight loss, usually as a consequence of acute starvation and/or disease' (WHO, 1995, p. 165). Children are classified as wasted when their WHZ is less than -2, and severely wasted when their WHZ is less than -3.

Height-for-age reflects the linear growth of children. Children below 12 months of age are measured lying down, whereas children above 12 months (if they are able to stand) are measured while standing, using a stadiometer. Having a low height-for-age is referred to as **stunting**. This index identifies past or **chronic malnutrition**, which is the effect of long-term poor health and inadequate diet, which leads to poor linear growth, in particular for children younger than two years old (WHO, 1995, p. 164). Children are classified as stunted when their HAZ is less than -2.

Weight-for-age reflects body mass relative to chronological age. It reflects both children's height-for-age and their weight-for-height, which makes interpretation complex. Children with a low weight-for-age are classified as **underweight** when their WAZ is less than -2. This index reflects both past (chronic) and/or present (acute) undernutrition, although it is unable to distinguish between the two.

MUAC is a measure of the diameter of the upper arm and gauges both fat reserves and muscle mass. It is an alternative index of wasting, as against the measures outlined above. For children, a fixed (age-independent) cut-off point has sometimes been used to determine malnutrition, and it is also used a measure of mortality risk.

9.2.1 Nutritional status of the 'midline' child (aged two to four years at endline)

At midline, the quantitative results showed a positive impact of the CDGP on child height-for-age. Table 32 and Figure 46 report impacts on these indicators at endline for the sample 'midline' children, who are aged between 21 and 49 months at the time of the endline survey. We find that the CDGP has successfully achieved a positive impact on reducing the prevalence of stunting among this sample of children. Moreover, this impact has been sustained since the midline period, when an impact on this sample was first documented. Although, the magnitude of impact is slightly smaller at endline than it was at midline. The impact on HAZ scores translates into a significant reduction of 5.4 percentage points in the proportion of children who are stunted, and a reduction of 4.77 percentage points in the proportion who are severely stunted. Nonetheless, we also see that the rate of stunting remains extremely high in this setting, with 67% of those in non-CDGP communities reported to be stunted compared with 62% of children in CDGP communities.

It is important to note that our results on HAZ may be affected by the fact that children in CDGP communities are on average reported to be around three weeks younger than those in non-CDGP communities.[63] Populations in many developing country contexts are known to exhibit a

[63] There are a number of possible explanations for the finding that children in CDGP-communities are younger than those in non-CDGP communities. One possible explanation is that exposure to the CDGP may have led to a 'gestation effect', whereby the incidence of pre-term birth has been reduced and children in our CDGP communities have been born to longer pregnancies (thereby making them relatively younger at follow-up). We are not able to directly estimate gestational age using our data to verify this. A second possibility is that beneficiaries in CDGP-communities may have had an incentive to slightly under-report the ages of their children, if they believed that this may help them to receive the

phenomenon called 'growth faltering', whereby rates of stunting tend to increase with age until a peak at around 24 months. Differences in age between CDGP and non-CDGP children could therefore potentially influence the estimated impact on HAZ scores. To address this, in Volume II we also report impacts after adjusting for age. We find that the impact on HAZ scores persists, although it is smaller and the result has weaker statistical significance. This is not altogether surprising, as by endline this sample of children is older than 24 months on average, and the growth faltering profile plateaus beyond this point.

The impact on stunting that we observe is consistent with other literature. The quantitative midline evaluation report included a discussion of how the anthropometric results compared to existing literature on randomised evaluations of cash transfer programmes and information interventions in developing countries (Carneiro, Rasul, Moore, and Mason, 2017). We show here that evidence on the impact of cash transfers on anthropometric indicators is varied (Bastagli, *et al*., 2016). Thus against a fairly mixed backdrop, the effect sizes that we document for CDGP are roughly in line with the literature. For example, the impact we observed by the time of the midline evaluation (which itself is larger than the corresponding result at endline) was greater than the impact seen in a conditional cash transfer evaluated by Maluccio and Flores (2005). The only other intervention we are aware of which has provided a combined package of information together with an unconditional cash transfer, similar to the CDGP, is studied in Levere *et al*. (2016). This research found a null finding on anthropometrics of the exposed child. The study did exhibit some differences with our evaluation, as the evaluation's follow-up occurred over a shorter time-frame than our endline, and the transfer was disbursed over a shorter period of time than the CDGP (seven months). This may partly explain their null finding.[64]

Turning now to the other anthropometric indicators tested, as find no impact on wasting (weight-for-height) or the proportion of children who are underweight (low weight-for-age). This is in contrast to the results of the midline evaluation, where we found a small increase in wasting associated with the CDGP. This was due to children in CDGP communities being relatively taller for their age, but not heavier, than non-CDGP children (i.e. no difference on weight-for-age). This midline result is shown in the first two columns of Table 32. It is possible that early improvements in nutrition may have contributed to an increase in a child's height, but were not sufficient to overcome continued lack of access to adequate nutrition, even in CDGP communities. This might then have prevented children's weight gains from keeping up with their height gains.

Table 32: Anthropometrics for midline children (born after the baseline, before the midline)

	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)	p-value
Age (months)	2718	19.5	-0.89***	2209	42.0	-0.71**	0.32
		(6.6)	(0.29)		(6.4)	(0.31)	
Height (cm)	2669	74.2	-0.13	2159	89.4	0.21	0.15
		(6.8)	(0.28)		(5.8)	(0.28)	
Weight (cm)	2669	8.8	-0.12	2159	12.6	0.01	0.11

transfers for longer. However, our field teams were carefully trained to introduce themselves as fully independent of the CDGP, to limit this possible association. We also sought to verify dates of birth with secondary documents (birth certificates or vaccination cards), where available, to check all birthdays. Note that this difference in the ages of children in our sample persists when controlling for possible differences in the dates of interview.

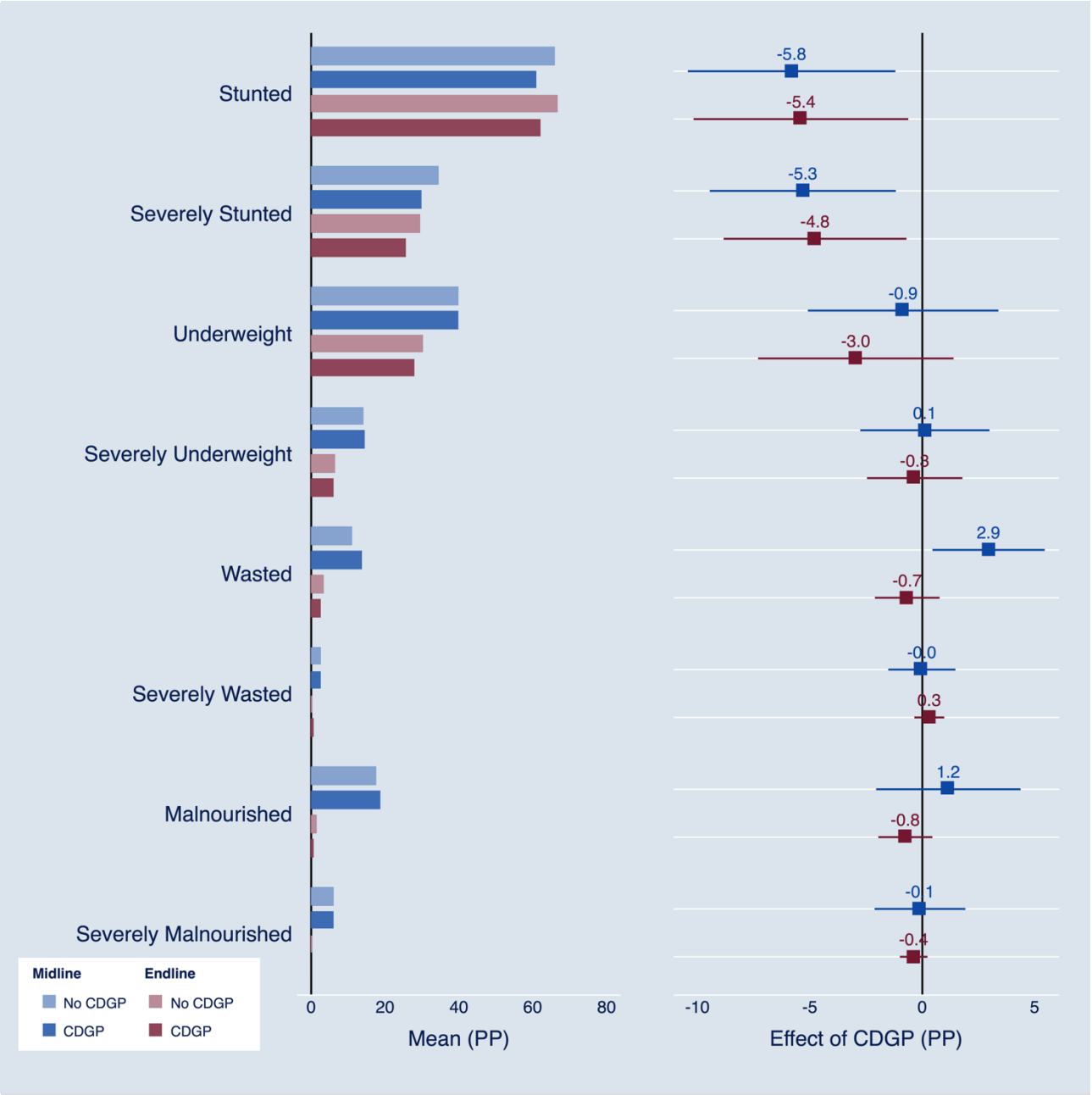
[64] They do, however, estimate positive effects of the intervention on older siblings of the target child.

		(1.8)	(0.08)		(1.8)	(0.09)	
BMI-for-age Z-score	2669	-0.2	-0.15***	2159	0.2	-0.06	0.16
		(1.1)	(0.05)		(1.0)	(0.06)	
Height-for-age (HAZ)	2669	-2.5	0.22***	2159	-2.5	0.14**	0.21
		(1.3)	(0.06)		(1.1)	(0.05)	
% who are classed as stunted (HAZ < -2)	2669	66.2	-5.82**	2159	66.8	-5.40**	0.88
			(2.36)			(2.44)	
% who are classed as severely stunted (HAZ < -3)	2669	34.8	-5.32**	2159	29.8	-4.77**	0.81
			(2.11)			(2.08)	
Weight-for-age (WAZ)	2669	-1.7	0.04	2159	-1.5	0.06	0.71
		(1.2)	(0.06)		(1.0)	(0.05)	
% who are classed as underweight (WAZ < -2)	2669	40.1	-0.85	2159	30.2	-2.96	0.41
			(2.16)			(2.22)	
% who are classed as severely underweight (WAZ < -3)	2669	14.5	0.12	2159	6.7	-0.34	0.77
			(1.47)			(1.08)	
Weight-for-height (WHZ)	2669	-0.6	-0.11**	2159	-0.1	-0.04	0.26
		(1.1)	(0.05)		(1.0)	(0.06)	
% Wasted (WHZ < -2)	2669	11.2	2.95**	2159	3.4	-0.67	0.01
			(1.27)			(0.73)	
% who are classed as severely wasted (WHZ < -3)	2669	2.9	-0.02	2159	0.4	0.31	0.69
			(0.76)			(0.34)	
MUAC	2718	140.1	3.65	2175	154.9	-0.68	0.17
		(66.8)	(2.94)		(56.4)	(2.31)	
% who are classed as malnourished (MUAC < 125)	2694	17.6	1.16	2169	1.7	-0.75	0.26
			(1.64)			(0.61)	
% who are classed as severely malnourished (MUAC < 115)	2694	6.2	-0.10	2169	0.6	-0.38	0.78
			(1.03)			(0.31)	

Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. ML-EL diff. = p-value of the difference between the effect at midline and at endline.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'ML-EL diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). In addition, we control for child gender. SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Figure 46: Effect of the CDGP on stunting, wasting, and underweight for midline children (born after the baseline, before the midline)



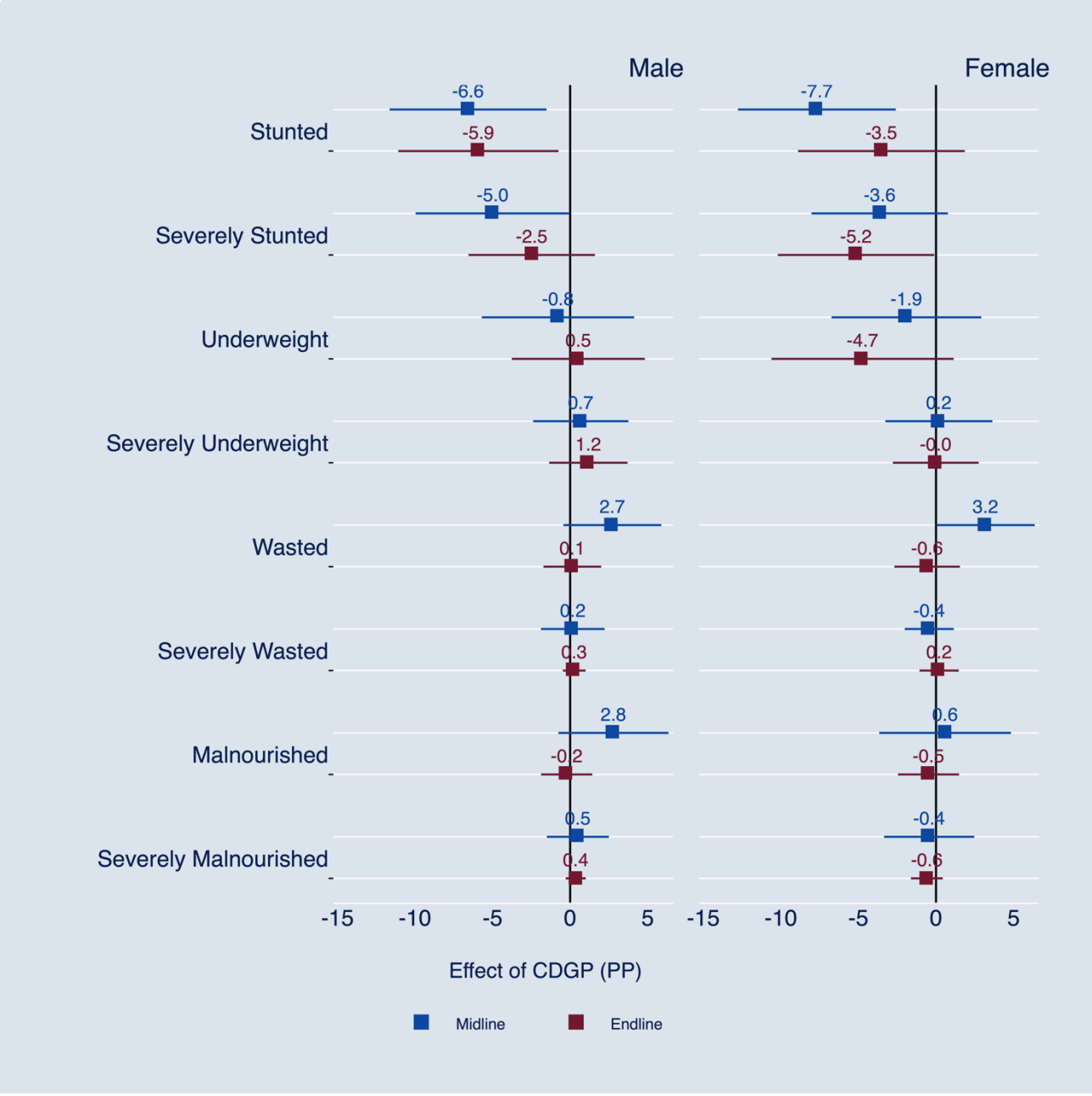
Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The left panel shows unweighted estimates of mean levels in non-CDGP and CDGP communities, by wave. The right panel shows the effect of the CDGP, where the number and square are the point estimates and the line is the 95% confidence interval. The effect is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). In addition, we control for child gender. SEs are clustered at the village level. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the vertical line*. The line indicates zero effect.
3. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
4. All Z-scores are computed using 2006 WHO growth charts, and cleaned by the standards described therein (WHO, 2006).

We also explore whether the impacts of the CDGP on anthropometric indicators vary by different characteristics. In Figure 47 we show the results disaggregated by gender, and find similar results for boys and girls. In Volume II, we also present figures to examine whether the impact on HAZ scores varies across the distribution (in other words, whether impacts are larger or smaller for

children with more adverse outcomes to begin with). We find that height-for-age scores are consistently higher in CDGP communities across the distribution, indicating that the CDGP has an impact on stunting for children with both high and low HAZs.[65] In terms of weight-for-age, there is no impact of the CDGP anywhere in the distribution.

Figure 47: Effect of the CDGP on stunting, wasting, and underweight for midline children (born after the baseline, before the midline), by gender



[65] However, the differences in each part of the distribution are not generally statistically significant when the sample is broken down into deciles.

Source: CDGP baseline, midline, and endline survey data. Notes:
1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The figure shows the effect of the CDGP, where the number and square are the point estimates and the line is the 95% confidence interval. The effect is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). In addition, we control for child gender. SEs are clustered at the village level. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the vertical line*. The line indicates zero effect.
3. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
4. All Z-scores are computed using 2006 WHO growth charts, and cleaned by the standards described therein (WHO, 2006).

9.2.2 Nutritional status of the 'endline' child (aged zero to two years at endline)

We now report the findings on anthropometric outcomes for the sample of endline children, who are aged between 0 and 30 months during the endline survey. As discussed above, this sample primarily consists of children who were not directly exposed to the CDGP itself, but are the younger siblings of the directly exposed children. The CDGP was not explicitly designed to have a continued impact on the nutritional status of successive children born into the household after the transfers had ended. However, examining the results for these children is nonetheless of interest in exploring whether, and to what extent, the impact of CDGP on child nutritional status is also conferred on those who were not directly exposed to the transfers during the first 1,000 days of their life.

In Table 33 and Figure 48, we show that there is no impact of the CDGP on most of the anthropometric indicators measured for this group of children, though we do find a positive impact on the MUAC. The estimated effect size on all indicators is in the expected direction (with children in CDGP communities having better outcomes on average); however, these differences are not statistically significant. The findings indicate that direct exposure to CDGP transfers may be required to achieve improvements in anthropometric measurements. This is not altogether surprising, since the outcomes of younger siblings are not directly included in the CDGP ToC. It is nonetheless interesting that the considerable improvements in IYCF practices and positive health behaviours that we have seen for this sample of younger siblings are not able to translate into improved anthropometrics.

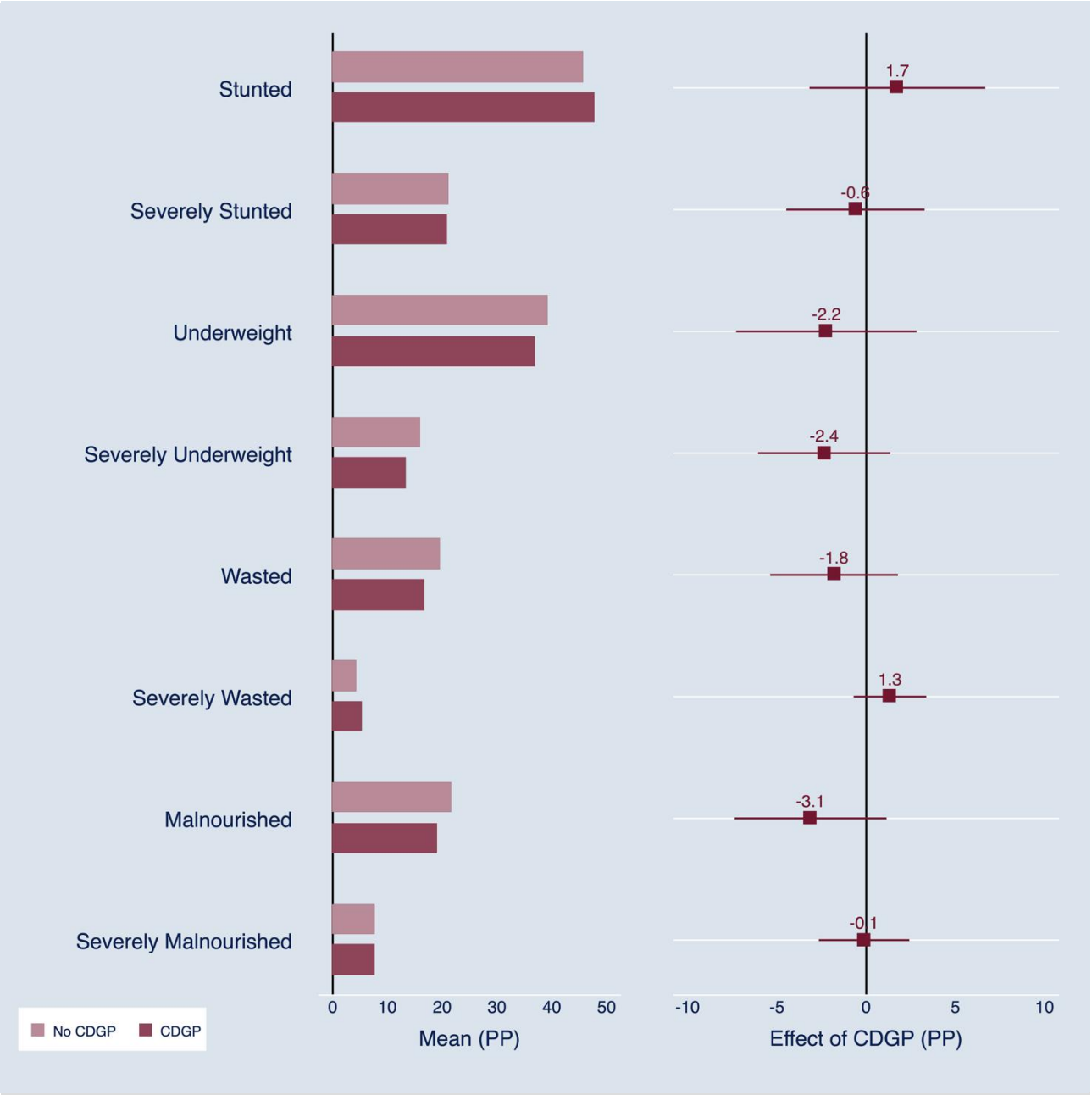
Table 33: Anthropometrics for endline children (born after the midline, before the endline)

	Endline		
	N	Non-CDGP mean (SD)	CDGP affect (SE)
Age (months)	1885	12.3	0.09
		(6.0)	(0.31)
Height (cm)	1854	68.9	0.34
		(7.0)	(0.32)
Weight (kg)	1854	7.4	0.14*
		(1.7)	(0.08)
BMI-for-age Z-score	1854	-0.7	0.07
		(1.3)	(0.06)
Height-for-age (HAZ)	1854	-1.8	0.04
		(1.6)	(0.09)
% who are classed as stunted (HAZ < -2)	1854	45.8	1.75
			(2.51)
% who are classed as severely stunted (HAZ < -3)	1854	21.3	-0.61
			(1.98)
Weight-for-age (WAZ)	1854	-1.6	0.08
		(1.4)	(0.07)
% who are classed as underweight (WAZ < -2)	1854	39.4	-2.24
			(2.58)
% who are classed as severely underweight (WAZ < -3)	1854	16.0	-2.36
			(1.89)
Height-for-weight (WHZ)	1854	-0.9	0.08
		(1.3)	(0.06)
% wasted (WHZ < -2)	1854	19.6	-1.81
			(1.83)
% who are classed as severely wasted (WHZ < -3)	1854	4.3	1.33
			(1.04)
MUAC	1883	133.2	1.94**
		(13.7)	(0.90)
% who are classed as malnourished (MUAC < 125)	1882	21.9	-3.12
			(2.17)
% who are classed as severely malnourished (MUAC < 115)	1882	7.6	-0.12
			(1.29)

Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
5. The 'Effect' is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). In addition, we control for child gender. SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Figure 48: Effect of the CDGP on stunting, wasting, and underweight for endline children (born after the midline, before the baseline)



Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. The left panel shows unweighted estimates of mean levels in non-CDGP and CDGP communities, by wave. The right panel shows the effect of the CDGP, where the number and square are the point estimates and the line is the 95% confidence interval. The effect is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). In addition, we control for child gender. SEs are clustered at the village level. The effect of the CDGP is statistically significant at the 5% level *if the confidence interval does not overlap with the vertical line*. The line indicates zero effect.
3. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
4. All Z-scores are computed using 2006 WHO growth charts, and cleaned by the standards described therein (WHO, 2006).

9.3 Children's education

We now turn to the impact of the CDGP on child development outcomes beyond health and nutrition status. In terms of children's schooling, Table 34 shows that we find a large positive impact of the CDGP on the proportion of children aged between four and eight who are attending school at endline. Children aged around four at endline include those who are most likely to have been directly exposed to the CDGP in households that had a pregnant woman at baseline. Given that the CDGP did not include any conditionalities relating to education outcomes, it is notable that we still observe this impact. Nevertheless, the proportion of these children attending school remains low, at just under 40%. We do not observe any impact on schooling for older children who have not been directly affected by the intervention.

Table 34: Children's education

	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)	p-value
% Children aged 4–8 attending school	2631	29.50	0.26	2458	39.73	6.13**	0.05
			(2.71)			(2.94)	
% Children aged 4–8 who ever attended school	2631	32.15	0.80	2458	43.89	4.49	0.24
			(2.84)			(2.91)	
% Children aged 9–18 attending school	2355	21.79	1.08	2099	26.59	1.98	0.73
			(2.26)			(2.87)	
% Children aged 9–18 who ever attended school	2355	36.58	-0.19	2099	45.65	2.72	0.26
			(3.00)			(3.44)	
% Children aged 9–18 who completed primary education	2355	6.09	-0.71	2099	7.06	-1.76	0.50
			(1.19)			(1.35)	

Source: CDGP baseline, midline, and endline survey data. Notes:
1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. ML-EL diff. = p-value of the difference between the effect at midline and at endline.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'ML-EL diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), ***(1%).

9.4 Children's communication and motor skills

The CDGP baseline interviews included the administration of the ASQ-3™ version of the ASQ (Squires, 2009). The ASQ, as implemented in the CDGP, surveys two areas of infant and child behaviour: communication skills (i.e. babbling, vocalising, listening, and understanding) and gross motor skills (i.e. arm, body, and leg movements). For each of these areas the questionnaire presents six items describing a particular action or behaviour that is expected from a child that is developing correctly: each item can be answered 'Yes' (scores 10 points), 'Sometimes' (scores five points), or 'Not yet' (scores 0 points). The scores for each area are then added together, generating two scales ranging from 0 to 60. The questionnaire is designed to be administered to

children of varying ages: in the version used in the CDGP baseline there were 14 different modules, with items appropriate for the different child age bands, from five months to 37 months.[66]

Validation of the ASQ method applied to a sample of more than 18,000 questionnaires has led to the calculation of area-specific cut-off scores, which make it possible to identify children who might show signs of developmental delays or disorders. Subjects with scores that fall more than two SDs below the mean of this reference population are included in the 'Referral' group, for which further diagnostic assessment is recommended. Children between -1 and -2 SD are included in a 'Monitoring' group, and might require closer attention, specialised activities, and/or repeated screening. Children above -1 SD are considered to be developing appropriately.

These referral and monitoring cut-offs were calculated on the basis of a sample of US children. Therefore, all statistics in this section are relative to this population. One important aspect to emphasise before presenting any numbers is that several items of the ASQ had to be adapted to the setting we are considering.

In documenting the impacts of the CDGP on children's communication and motor skills, we focus only on the new children born *after* the start of the CDGP. At midline, we found no impacts on motor skills, but there were impacts at the bottom of the distribution of communication skills that led to a reduction in the proportion of children in the Referral/Monitoring group (those with the lowest scores). In spite of this, even in the CDGP communities, more than 60% of the children had ASQ scores that, in rich country settings, would lead paediatricians to recommend these children for careful subsequent monitoring by a developmental nurse or psychologist. However, at endline we find few impacts on any of the ASQ components we have tested, apart from a weakly significant impact on the proportion of children in a Referral/Monitoring group for personal-social skills development, among the sample of endline children.

[66] The age bands in the CDGP version of the ASQ are as follows:

- 1–2 months (30–91 days)*
- 3–4 months (92–151 days)*
- 5–6 months (152–212 days)
- 7–8 months (213–272 days)
- 9–10 months (273–333 days)
- 11–12 months (334–394 days)
- 13–14 months (395–455 days)
- 15–16 months (456–516 days)
- 17–18 months (517–577 days)
- 19–20 months (578–638 days)
- 21–22 months (639–699 days)
- 23–25 months 15 days (700–775 days)
- 25 months 16 days – 28 months 15 days (776–867 days)
- 28 months 16 days – 31 months 15 days (868–958 days)
- 31 months 16 days – 34 months 15 days (959–1,049 days)
- 34 months 16 days – 38 months 30 days (1,050–1,185 days)
- 39 months – 44 months 30 days (1,185–1,368 days)*
- 45 months – 50 months 30 days (1,369–1,550 days)*
- 51 months – 56 months 30 days (1,551–1,733 days)*

The starred modules (*) are the ones added at endline.

Table 35: ASQ for midline children (born after the baseline, before the midline)

	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)	p-value
Communication skills	2528	25.1	1.11	2206	52.9	-0.10	0.33
		(16.6)	(0.95)		(11.3)	(0.67)	
% with communication skills in Referral/Monitoring class	2528	68.0	-4.43*	2206	6.6	1.93	0.03
			(2.34)			(1.40)	
Gross motor skills	2528	35.8	1.43	2206	51.9	0.30	0.36
		(17.9)	(1.01)		(12.1)	(0.71)	
% with gross motor skills in Referral/Monitoring class	2528	60.0	-3.82	2206	13.6	2.25	0.07
			(2.75)			(1.77)	
Personal-social skills				1511	59.6	-2.81	
					(32.7)	(2.02)	
% with personal-social skills in Referral/Monitoring class				1511	23.4	2.55	
						(2.76)	

Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. ML-EL diff. = p-value of the difference between the effect at midline and at endline.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'ML-EL diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Table 36: ASQ for endline children (born after the midline, before the endline)

	Endline		
	N	Non-CDGP mean (SD)	CDGP effect (SE)
Communication skills	1829	29.9	1.47
		(17.5)	(1.11)
% with communication skills in Referral/Monitoring class	1829	56.5	-2.55
			(2.75)
Gross motor skills	1829	37.0	0.62
		(19.4)	(1.08)
% with gross motor skills in Referral/Monitoring class	1829	52.9	-1.47
			(2.87)
Personal-social skills	1829	49.9	1.93
		(42.2)	(2.18)
% with personal-social skills in Referral/Monitoring class	1829	46.7	-5.47*
			(2.83)

Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities.
4. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
5. The 'Effect' is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). In addition, we control for child gender. SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Part C: Conclusion

10 Conclusion and recommendations

This section outlines the conclusions of the endline evaluation, and a set of recommendations arising from the results. We start by summarising our findings in relation to the key evaluation hypotheses, and then present lessons from these findings, and finally a set of recommendations.

10.1 Testing the key evaluation hypotheses

Evaluation Hypothesis I: *The CDGP intervention, and in particular the provision of a regular transfer of NGN 3,500*[67] *on a monthly basis to women, will result in the consumption of larger quantities, and more varied types, of food, resulting in an increase in dietary intake and consequently a reduction in child malnutrition.*

Endline finding: The CDGP has had a considerable impact on improving the dietary diversity of children aged over six months. It has also had an impact on household food expenditure, and led to a reduction in households experiencing food shortages during different seasons of the year. The fact that these impacts are observed in the endline period indicates that the effects of the CDGP on household food consumption have persisted long after much of our sample has stopped actually receiving transfers. We also observe positive impacts on other measures of child health, including a reduction in how regularly children are reported to suffer from an illness or injury. Among children of an age range to be directly exposed to transfers, the CDGP has successfully led to a reduction in the rate of stunting. There is no impact on their likelihood of being wasted or underweight, although the proportion who are reported to be wasted is very low to begin with. For younger siblings of children exposed to transfers, the CDGP also leads to an impact on the adoption of positive IYCF practices and health behaviours, but no change in their anthropometric measurements.

Evaluation Hypothesis II: *The provision of a regular predictable cash transfer will result in a reduction in negative risk-coping behaviour and, in particular, a reduction in the distress sale of assets and debt accumulation among beneficiary households.*

Endline finding: The CDGP has enabled households to invest in livestock, increase their savings, and reduce reliance on borrowing. These are all important dimensions connected with building household resilience to external shocks, and we find that there is a significant reduction in the prevalence of food insecurity throughout all seasons of the year. At the same time, we find that when shocks do occur (focusing in particular on times during the year when households say they did not have enough food), CDGP households are less likely to rely on external assistance from family or friends, to have to borrow money, or to have to sell assets, to cope. For women, we find that the transfer leads to an increase in participation in work activities such as petty trading.

Evaluation Hypothesis III: *Through nutritional advice and counselling the programme will improve the KAP of the targeted men and women in relation to nutrition and general maternal and childcare practices.*

Endline finding: The evaluation documents large impacts for both women and their husbands, across a wide range of knowledge indicators that are linked to the key messages of the CDGP SBCC strategy. This represents a considerable achievement for the programme. This finding has persisted from our midline results through to this longer endline follow-up, and is consistent with the results of the qualitative studies too. Moreover, these changes in caregiver knowledge have

[67] Adjusted to NGN 4,000 in January 2017.

also translated into improved practices. The CDGP has had an impact on increased uptake of ANC among pregnant women, and the proportion of deliveries that occur at a health facility, as well as on the adoption of exclusive breastfeeding for children aged under six months and dietary diversity of children aged over six months. At endline, as at midline, we continue to find evidence that investments in child health caused by the CDGP extend beyond nutrition: the programme has had a positive impact on the uptake of vaccinations and deworming medication in young children. These impacts arise not only for children of the age range to be directly exposed to the programme intervention, but their older and younger siblings too. This reflects the positive spillover effects of the CDGP beyond those on targeted children.

10.2 Lessons

10.2.1 Lessons about the delivery of the CDGP

1. **The CDGP continues to reach an extremely vulnerable population, facing a number of challenges that affect the potential of children to thrive and develop.**

   The endline results testify to the fragile nature of the context in which the CDGP operates. Communities in our evaluation sample are shown to be vulnerable to a variety of man-made and natural shocks. The incidence of shocks at community level, in addition to idiosyncratic shocks that may occur at household level, can have profound effects on the ability of households to secure their livelihoods and attain positive health and nutrition outcomes for children. Almost all communities in the evaluation sample report having been affected by at least one shock in the 12 months preceding the survey. Our results also reveal a poor health and nutrition situation in these communities, with extremely high rates of stunting among children, low rates of facility delivery, and low dietary diversity of children aged over six months. It is clear that the CDGP has targeted a population where children are at risk of poor development outcomes and there is a need for intervention.

2. **Coverage of the cash component of the CDGP has been high overall, despite some initial teething problems in its roll-out.**

   By the time of the endline, around 90% of women who were initially pregnant at the baseline phase had received cash from the CDGP. In addition, roughly 86% of women who were not pregnant at baseline had also become pregnant and received the cash.[68] Overall participation in the cash component of the programme is thus relatively high. The ability of the CDGP to enrol and pay large numbers of beneficiaries as it has scaled up is an important achievement, given a challenging operating environment.

   Reasons why the remaining women who were pregnant at baseline did not take up the cash include ineligibility – for example, if they miscarried or misreported their initial pregnancy, or never became pregnant during the evaluation period. We also know that there were some teething problems in the registration process at the start of implementation, which may have led to some women who were eligible for the programme never being successfully registered. However, the overall very high levels of take-up suggest that such programme s – even with demanding logistical set ups – can be effectively delivered in this environment.

[68] Recall that apart from women who were already pregnant at baseline, we sought to sample households with women who were likely to become pregnant in the near future. Thus it is not surprising that we observe high fertility among this group.

3. **Women retain control over the CDGP, and the majority of the cash is spent on food for the household or food for children.**

   Both husbands and wives interviewed for the quantitative midline and endline surveys reported that women can determine how the transfer is spent, either independently or in joint discussion with their husbands. The qualitative research also reported similar findings, with women found to exercise control over the use of the transfer and husbands being largely accepting of the idea that the transfer was for women to spend (Sharp, Cornelius, and Gadhavi, 2018, p. 49). The most common uses for the cash transfer are to contribute toward food for the household, or for children in particular.

4. **The programme successfully implemented a complex intervention in a challenging operational context, achieving wide coverage. It faced some difficulties in being able to enrol and exit all beneficiaries from cash transfers at the intended time.**

   The CDGP has successfully demonstrated that it is possible to implement a complex intervention at scale, in a context of low development outcomes, ongoing security challenges and weak infrastructure. This represents a considerable achievement for implementers. The programme has faced some challenges in implementation within this environment. This included difficulties in reliably enrolling beneficiaries early in their pregnancy. Women in our main analysis sample, who were initially pregnant at baseline and therefore eligible to receive the CDGP as soon as it started implementing, experienced some delays in being enrolled into the programme. First payments were made on average in their eighth month of pregnancy. However, the CDGP did make improvements in the efficiency of the registration process over time. We find that women who were not already pregnant at baseline, but became pregnant and received the programme later, received payments earlier in their pregnancies, in the sixth month.

   Administering transfers to women early during their pregnancy is a challenging goal to achieve. It relies first on women coming forward to be tested, which they may not do unless they already know or suspect themselves to be pregnant. Some delay in registration may therefore arise due to the time elapsed before potential beneficiaries realise that they may be eligible. Secondly, the CDGP's processes do not allow registration to happen continuously. Registration and enrolment are overseen by CDGP staff, who are not permanently present in CDGP communities for this purpose but need to conduct scheduled visits to different communities on a rotating basis to do so. These factors contribute to difficulties in targeting women during pregnancy.

   We also find some evidence of variation in the timing of exit. Our results show that beneficiaries are on average exited from the programme when their child is 24 months of age, which is in line with the programme's design. However, there is variation around this date, suggesting some challenges in fully maintaining the planned protocol. Some of the variation before 24 months may be explained by women qualifying for a premature exit from the programme (if, for example, their child dies or they relocate away from a CDGP community). However, we also find some cases of women appearing to receive the programme after their child has turned two years. This may reflect the fact that the CDGP has struggled to maintain an up-to-date registry of the birthdays of all children for whom transfers are paid. This is related to the difficulties of operating a context where formal registration of births is very low and it is common for households to be unsure of the date of birth of children.

5. **There do not appear to have been substantial differences in implementation of the two versions of the CDGP intervention that this evaluation sought to test.**

The evaluation was designed to test the impact of two different models of the CDGP SBCC component; a 'low-intensity' and 'high-intensity' version. As per the design of these two models, the low-intensity component was intended to include a range of communication channels that were not restricted to any individual, and the high-intensity component was intended to include these same channels, but with the addition of more individually-targeted support through one-to-one counselling and support groups. Both the midline and endline phases of the quantitative evaluation have found limited differences in the reported exposure to the 'high-intensity' channels between respondents living in designated high- and low-intensity communities. We do always find higher levels of exposure to the high-intensity SBCC channels in high-intensity communities, however the levels of reported exposure to these channels in 'low-intensity' communities is higher than we would expect. The overall picture that emerges is of two implementation models that have not been experienced very differently by beneficiaries in practice.

10.2.2 Lessons about the impact of CDGP

1. **The CDGP has been extremely effective in promoting improvements in caregivers' knowledge of beneficial child health and nutrition practices**

   This evaluation has found evidence of some remarkable impacts of the CDGP on improving caregiver knowledge and beliefs, across a wide range of domains that span the range of messages provided through its SBCC campaign. Crucially, impacts are observed for both women and their husbands, and evidence of this impact has persisted between the midline and endline phases of the evaluation. These findings are consistent with the results reported in the qualitative endline report too. Both studies have sought to carefully probe these dimensions at endline to help determine whether the results may be influenced by possible self-reporting bias. Yet, in both cases the results have proved robust to additional scrutiny, and thus we have strong evidence that the CDGP has indeed been highly effective in improving knowledge of its key SBCC messages.

   This represents a considerable achievement for the programme. We cannot exactly pinpoint which elements of the SBCC strategy have been especially effective in this context, although the body of evidence collected across all evaluation workstreams provides some possible indications. The high intensity of its delivery model (even in the 'low'-intensity communities) may be one feature that has contributed to this success. The CDGP has been able to leverage a large network of trained volunteers from within the communities to deliver SBCC activities. The qualitative endline report pointed to the actual presence of CVs in communities as being crucial in helping to shift attitudes among women, by acting as role-models and providing continuous re-enforcement of messages (Sharp, Cornelius, and Gadhavi, 2018, p. 29). The quantitative evaluation results confirm that CVs are almost universally recognised in CDGP communities, underscoring the deep engagement of the programme volunteers within communities. The multiple channels provided by the SBCC also appear to have been crucial, as the qualitative endline noted that inclusion of men within the strategy was frequently mentioned by respondents as being important (Sharp, Cornelius, and Gadhavi, 2018, p. 29). The quantitative midline further confirmed that men and women access messages through different channels (Carneiro, Rasul, Moore, and Mason, 2017).

   Overall, the evaluation provides strong evidence to show that the SBCC strategy has been well-designed and well-implemented to achieve strong impacts in household knowledge and adoption of healthy IYCF practices.

2. **The CDGP cash transfers have effectively improved households' material wellbeing, increasing their expenditure and ability to invest in productive assets such as livestock. Many of these impacts are found to persist after the transfers themselves have ended, indicating that the cash transfers can confer longer-lasting changes on household economic status.**

   CDGP has had impacts on some factors relating to household economic security that have continued, and in some cases increased in magnitude, since midline, even after most of our analysis sample have exited the programme. In particular, the programme has increased the proportion of women engaged in work activities, women's investment in their businesses, and revenues from women's business. We also observe impacts on savings and borrowing behaviour that are larger than those found at midline, and large impacts on increased household expenditure. Given that the majority of our sample are no longer receiving cash from the CDGP, this points to longer-term dynamics of how cash has affected beneficiary households. Some impacts have only become apparent at endline, suggesting that an accumulation of the transfers may be important to shift these dimensions. In some cases these impacts are even greater at endline than they were at midline. These findings provide strong encouragement that positive impacts on household livelihoods and resilience to shocks may continue in the longer term.

3. **The impact of the CDGP on promoting positive practices for healthy child feeding has been sustained for new children born in the household.**

   The CDGP has had a positive impact on health and nutrition practices adopted for new children born in the household. This impact is of a comparable magnitude to that relating to practices adopted for their older siblings, and in some cases larger (for example, in the case of ANC uptake during pregnancies with these children). This suggests that the programme has had a sustainable effect on promoting positive IYCF and health practices that are carried over for subsequent children.

4. **The positive impact of the CDGP on child anthropometric outcomes and dietary diversity is not different for boys and girls.**

   We find that the impacts of the programme on reducing the prevalence of stunting and increasing dietary diversity for children aged over 23 months are experienced similarly by boys and girls. This is consistent with additional evidence presented in this report, which shows that women and their husbands hold similar beliefs about the value of adopting positive nutritional practices for child development across boy and girl children. Thus our findings do not suggest that the benefits of the CDGP accrue differently for boys and girls.

5. **The CDGP has led to a reduction in the proportion of children who are stunted. Direct exposure to transfers during the first 1,000 days of life is important for achieving this impact, which is not observed for the younger siblings of CDGP-exposed children.**

   We find that the CDGP has led to a reduction in the likelihood of children being stunted, among those who were of an age range to have been directly exposed to transfers. Improvement in the final nutritional status of children was a key part of the ultimate objectives of this programme, and is consistent with the range of positive impacts that have been documented across the outputs and outcomes articulated in the programme's ToC. This is an important finding given that bringing about an improvement in the nutritional status of children is among the high-level objectives of CDGP.

Among the younger siblings of children who were exposed to the CDGP in its initial cohorts, we also find evidence of substantial gains in their health and nutrition. We observe an increase in the uptake of vaccinations, a reduction in the frequency of illnesses and injuries, and an increase in the adoption of positive IYCF practices. These are important gains, which indicate that the benefits of the CDGP are to some extent passed onto younger siblings in the household even after the transfer ends. We don't find an impact on anthropometrics for this group of younger siblings. Therefore it appears that not having been exposed to the cash prevented these important gains from being translated into an impact on stunting. This finding is consistent with our midline results, where we also argued that our evidence pointed to the importance of direct intervention early in life. At midline, we made this inference on the basis of the finding that while there was an impact on stunting for children who were born after the CDGP started, there was no impact for their older siblings who were born before.

6. **The rate of malnutrition in this setting remains a serious problem in this population. Although it has had some notable positive results, CDGP is not able to bring about the changes needed to address this situation in isolation.**

   Despite the positive impacts of the CDGP documented by this evaluation, it is important to recognise that the final impact of the programme on reducing of stunting is only able to make up a relatively small amount of the gap between children in CDGP communities and the healthy reference population. Among the sample of children that includes those who were directly exposed to the intervention (our sample of 'midline' children), the proportion classified as stunted is still more than 60% in the CDGP communities.

   Stunting is a notoriously difficult indicator to affect. This is evidenced by our review of the literature of other experimentally-derived findings on the impact of cash-transfer interventions on stunting, presented in the midline report (Carneiro, Rasul, Moore, and Mason, 2017). Height-for-age represents a measure of long-term chronic malnutrition. While insufficient nutrient intake and health factors are undoubtedly key drivers of stunting rates, broader socio-economic determinants, such as poverty and inequality, may also be key. Given the complex mechanisms underlying growth faltering, it may be unrealistic to expect an intervention that has operated primarily at community and household level to address these underlying determinants, without further complementary and multi-sectoral support (Neufeld and Haddad, 2018).

10.3 Recommendations

10.3.1 Recommendations for the programme implementers

This sub-section describes a set of key recommendations arising from this evaluation relating to the implementation of the CDGP. Note that a set of more operational recommendations may be found in the reports produced by the process evaluation workstream (Sharp, Visram, Bahety, and Kardan, 2016), (Visram, *et al*., 2018).

1. **Providing SBCC through multiple channels is effective, because men and women access messages from different channels.**

   Evidence from both the midline and endline quantitative evaluations indicates that men and women recall messages from the CDGP SBCC from different channels. We also find that the knowledge of healthy IYCF behaviours has considerably improved for both. Taken

together, the evidence indicates that the strategy of providing SBCC messages through multiple different channels is well-considered. In a context where child feeding practices are shaped by the influences and views of people beyond just the mother, seeking to target communication toward men and the wider community through provision of different types of information channel appears to be an effective approach.

2. **Sustained engagement of trained volunteers within communities can help to strengthen the visibility and impact of SBCC messages.**

   The evaluation shows that the CDGP has been very effective at positively influencing knowledge, attitudes and practices relating to IYCF among men and women. Drawing on the results of the qualitative research, we suggest that the depth of engagement of the CDGP within the communities that it supports may have been an important factor for this. The programme's implementation model draws on a wide network of trained volunteers who have a long-term presence within the communities where it operates. We found that knowledge of CVs is very high among both men and women in CDGP communities, indicating that this sustained engagement has been successful in creating a visible platform for the dissemination of SBCC messages. Findings from the qualitative endline evaluation further suggest that much of the behaviour change brought about by the CDGP is due to the effect of observing practices adopted by others (although note that the quantitative evidence is not able to triangulate this finding). Among respondents for the qualitative research, this 'demonstration effect' was cited by respondents as being an important deciding factor in supporting them to adopt new practices. The role of CVs not only in sharing information, but also demonstrating adoption of practice themselves and leveraging their roles as well-recognised members of the community, thus appears to have been key. In this respect, the CDGP's approach of embedding volunteers within communities has been an effective strategy.

   For future programmes, the benefits of this intensive form of engagement may need to be considered in relation to the costs of implementation. This evaluation did not include a cost-effectiveness component to explore these costs explicitly, however the process evaluation reports provide an indication of the high resource-requirement needed to maintain this cadre of trained CVs throughout implementation (Visram*, et al*., 2018). Thus while evidently an effective strategy for deepening engagement of the intervention with communities, this should be balanced against the resource requirements needed to implement this type of approach.

3. **In terms of targeting cash transfers, there may be a trade-off between seeking to implement a targeting process that meets what is considered to be international best practice, and the feasibility of implementing this in practice.**

   This recommendation concerns the intended targeting of the CDGP to fit within the 'first 1,000 days' of a child's life. The findings of the evaluation are consistent with an established literature that underscores the importance of this critical time period to achieve gains in child health and development. In particular, we consistently find the strongest impacts arising for the children who were directly exposed to the intervention from early life. There is consequently a good rationale for focusing on this time period, given the objectives of the intervention.

   However, our findings also point to a potential trade-off around the exact precision with which this window is targeted, relative to the feasibility of implementation. This echoes to some extent the conclusions drawn in the second round of the process evaluation (Visram, *et al*., 2018). Our findings show that the CDGP faced some challenges in targeting transfers

to this time period as closely as it intended to. The programme was set up to enrol women during their pregnancy and exit them from transfers when their child turned two years old. However we find that there was some variation in both the timing of beneficiaries' first payment and exit from the programme. In order to exit beneficiaries from the transfers at the intended time under the design of the CDGP, it is necessary for the programme to know when their child is due to turn two years old. This requires a database of the birthdays of beneficiaries' children, which is challenging to maintain in a context where birth dates are often unknown by caregivers and not recorded. Evidence from the process evaluation study highlight the large and ongoing investment of resources required by the programme implementers to gather this information and keep it up to date (Visram, *et al*., 2018).

In the context of the CDGP, it would have been operationally simpler to implement a targeting approach that adhered to the spirit, if not the letter, of the 'first 1,000 days'. This could have been achieved by administering a fixed number of payments to beneficiaries, with the amount of payments calculated to last on average until the child turns two years old. This type of approach would have been operationally easier to implement and monitor than an approach based on the age of the child, in this setting. For other programmes with similar objectives to the CDGP, it may therefore be worthwhile to consider the trade-offs that exist between a targeting approach that meets international best practice, versus one that is more logistically feasible in the implementation setting.

4. **Delivering SBCC through a 'low-intensity' strategy may be sufficient to attain impacts in improved knowledge and beliefs.**

   The evaluation has demonstrated striking impacts of the CDGP on shifting knowledge and beliefs among women and men about healthy child nutrition practices. The results suggest that implementing the 'low-intensity' version of the programme may have been sufficient to achieve these impacts, with lower additional value of the high-intensity component.

   We find few differences in impact between the two versions of the programme, with strong impacts observed in both the high- and low-intensity communities. Thus there appears to be little additional impact generated through the high-intensity version for achieving impact through this programme. As indicated above, we also find that there are smaller than expected differences in beneficiaries' self-reported experiences of the two programme versions, between different types of communities.

   In particular, we find smaller than expected differences in self-reported exposure to the high-intensity channels (support groups and one-to-one counselling) when comparing respondents in high- and low-intensity communities. We do not have direct evidence for what may explain the similarity in implementation between the two variants. However, it is possible that even in 'low-intensity' communities some informal engagement between CVs and community members has occurred that resembles activities more formally labelled as 'high-intensity' channels. If this is true then the low-intensity training and supervision package that the programme provides may be sufficient to equip CVs to engage in other ways with the community too, beyond the defined 'low-intensity' activities they are tasked with implementing.

10.3.2 Recommendations for the development partners and funders

1. **Given how difficult it is to achieve impacts on height-for-age, care should be taken when stunting is included as a high-level indicator on logframes to ensure that the indicator is used and interpreted appropriately.**

Alleviating stunting among young children was among the high-level objectives of the CDGP, as articulated in its logframe. Stunting is undoubtedly a meaningful metric with which to assess certain dimensions of child development, and the reduction in stunting caused by the CDGP is a meaningful and important result. However it remains a notoriously difficult indicator to shift, and the magnitude of the results on stunting that we can expect from a programme like the CDGP need to be considered in relation to the characteristics of this indicator itself. Stunting is the product of an accumulation of factors over time. Some of the numerous and complex determinants of height-for-age may lie beyond the remit of this programme alone to appreciably shift. In establishing logframe indicators for programmes with similar objectives to CDGP, it may therefore be worth considering whether there are other, complementary, metrics that can be incorporated alongside stunting to capture the high-level impacts of the programme on child nutrition and development. It is for example notable that despite positive evidence of improved dietary practices and health outcomes for younger siblings of children who were part of the first cohort of those exposed to the CDGP, this is not reflected in any change in stunting for this group (only for their older siblings). This is not a surprise, but what is indicates is that there can be gains in health and nutrition that the stunting indicator is not able to capture.

10.3.3 Recommendations for government partners

1. **The CDGP has demonstrated high returns through a social protection instrument that is targeted on the basis of categorical criteria linked to beneficiaries' the stage of life. This should be considered when deciding on the optimum targeting approach for future social assistance programmes.**

   By targeting the vulnerabilities faced by children during the first 1,000 days of their lives, the CDGP took an approach to social protection that is sometimes known as a 'life-cycle' approach. This means that it was based on the premise that individuals and households face different risks and vulnerabilities at different stages during their lives, and interventions were targeted to address needs during a particular time window.

   The Federal Government faces a decision over whether to apply a similar targeting approach to future social assistance programmes. An alternative to the approach adopted by CDGP would be to adopt a household poverty-targeted approach[69], in which beneficiaries are included on the basis of their estimated poverty status rather than their stage of life. For future programmes with similar objectives to the CDGP, the results of this evaluation suggest that the 'life-cycle' approach taken by the CDGP can be highly effective in achieving strong impacts. This evidence should be considered in future programming decisions when determining the relative benefits of different targeting approaches.

[69] Means testing can also be applied under the life-cycle approach if resources are limited, however administrative burden of such elements need to be balanced against the political exigencies of doing so.

References

Almond, D., & Currie, J. (2011). Human capital development before age five. *Handbook of labour economics, Vol. 4*, 1315-1486.

Bastagli, F., Hagen-Zanker, J., Harman, L., Barca, V., Sturge, G., Schmidt, T., & Pellerano, L. (2016). *Cash transfers: what does the evidence say?* London: Overseas Development Institute.

Bhutta, Z. A., Ahmed, T., Black, R. E., Cousens, S., Dewey, K., Giugliani, E., . . . Shekar, M. (2008). What works? Interventions for maternal and child undernutrition and survival. *The Lancet, 371*, 417-40.

Carneiro, P., Rasul, I., Moore, L., & Mason, G. (2015). *Child Development Grant Programme Evaluation - Quantitative Baseline Report.* ePact.

Carneiro, P., Rasul, I., Moore, L., & Mason, G. (2017). *The Child Development Grant Programme - Quantitative Midline Evaluation Report, Volume I.* ePact.

Carolina Population Center. (2016). *Malawi Social Cash Transfer Program Endline Impact Evaluation Report.* Chapel Hill, NC: University of North Carolina, Chapel Hill.

Chen, S., Schreiner, M., & Woller, G. (2008). *A Simple Poverty Scorecard for Nigeria.* Grameen Foundation U.S.A.

(November 2015). *Cost of the Diet Analysis Report for Three Livelihood Zones in the Child Development Grant Programme (CDGP) areas in Northern Nigeria.* Save the Children International.

Dewey, K. G., & Adu-Afarwuah, S. (2008). Systematic review of the efficacy and effectiveness of complementary feeding interventions in developing countries. *Maternal and Child Nutrition, 4*(1), 24-85.

Fiszbein, A., & Schady, N. (2009). *Conditional cash transfers.* Washington, DC: World Bank.

Fitzsimons, E., Malde, B., Mesnard, A., & Vera-Hernández, M. (2016). Nutrition, information and household behavior: Experimental evidence from Malawi. *Journal of Development Economics, 122*, 113-126.

Handa, S., Seidenfeld, D., Davis, B., & Tembo, G. (2016). The Social and Productive Impacts of Zambia's Child Grant. *Journal of Policy Analysis and Management, 35*(2), 357-387.

Imbens, G., & Angrist, J. (1994). Identification and Estimation of Local Average Treatment Effects. *Econometrica, 62*(2), 467-475.

Lancet Series. (2016). 'Advancing Early Childhood Development: from Science to Scale'. *available at http://www.thelancet.com/series/ECD2016*.

Leavy, J., Punton, M., Abah, S., Otulana, M., Schatz, F., & Hughes, C. (2014). *Child Development Grant Programme Evaluation - Situation Analysis Report.* ePact.

Levere, M., Acharya, G., & Bharadwaj, P. (2016). *The Role of Information and Cash Transfers on Early Childhood Development: Evidence From Nepal.* Washington, DC: World Bank.

Linnemayr, S., & Alderman, H. (2011). Almost random: Evaluating a large-scale randomized nutrition program in the presence of crossover. *Journal of Development Economics, 96*(1), 106-114.

Macours, K., Schady, N., & Vakis, R. (2012). Cash Transfers, Behavioral Changes, and Cognitive Development in Early Childhood: Evidence from a Randomized Experiment. *American Economic Journal: Applied Economics, 4*(2), 247-273.

Maluccio, J. A., & Flores, R. (2005). *Impact Evaluation of a Conditional Cash Transfer Program: The Nicaraguan Red de Proteccion Social.* Washington, DC: International Food Policy Research Institute.

Neufeld, L. M., & Haddad, L. (2018, June). Are We Misusing Stunting as a Measure of Child Nutrition? *Global Alliance for Improved Nutrition (GAIN)*. https://www.gainhealth.org/knowledge-centre/are-we-misusing-stunting-as-a-measure-of-child-nutrition/. Retrieved from https://www.gainhealth.org/knowledge-centre/are-we-misusing-stunting-as-a-measure-of-child-nutrition/

(2018). *Nigeria Demographic and Health Survey 2018, Key Indicators Report.* Nigeria National Population Commission, https://dhsprogram.com/pubs/pdf/PR118/PR118.pdf.

Paxson, C., & Schady, N. (2010). Does money matter? the effects of cash transfers on child development in rural Ecuador. *Economic Development and Cultural Change, 59*(1), 187-229.

Penny, M. E., Creed-Kanashiro, H. M., Robert, R. C., Narro, M. R., Caulfield, L. E., & Black, R. E. (2005). Effectiveness of an educational intervention delivered through the health services to improve nutrition in young children: A cluster-randomised controlled trial. *The Lancet, 365*, 1863-1872.

Picard, R. (2010). GEODIST: Stata module to compute geodetic distances. Statistical Software Components, Boston College Department of Economics. available at https://ideas.repec.org/c/boc/bocode/s457147.html.

Picard, R. (2010). GEODIST: Stata module to compute geodetic distances.

Roy, S. K., Fuchs, G. J., Mahmud, Z., Ara, G., Islam, S., Shafique, 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), 320-330.

Roy, S. K., Jolly, S. P., Shafique, S., Fuchs, G. J., Mahmud, Z., & Chakraborty, B. (2007). Prevention of malnutrition among young children in rurall Bangladesh by a food-health-care educational intervention: A randomized, controlled trial. *Food and Nutrition Bulletin, 28*(4), 375-383.

Schreiner, M. (2015). *Simple Poverty Scorecard Nigeria.* Available at microfinance.com/#Nigeria.

Sharp, K., & Cornelius, A. (2017). *Child Development Grant Programme Evaluation - Qualitative Midline Report.* ePact.

Sharp, K., Cornelius, A., & Gadhavi, V. (2018). *The Child Development Grant Programme Qualitative Endline Evaluation Report.* ePact.

Sharp, K., Cornelius, A., & Gadhavi, V. (2018). *The Child Development Grant Programme Qualitative Endline Evaluation Report.* ePact.

Sharp, K., Visram, A., Bahety, G., & Kardan, A. (2016). *Child Development Grant Programme Evaluation - Final Process Evaluation Report: Round I.* ePact.

Squires, J. (2009). *Ages and Stages Questionnaires. 3rd ed.* Baltimore, MD: Paul H. Brookes.

Visram, A., Balagamwala, M., Scott, M., Umar, C., Akinyemi, O., & Kardan, A. (2018). *Child Development Grant Evalation - Endline Process Evaluation.* ePact.

WHO. (1995). *Physical Status: the Use and Interpretation of Anthropometry.* Geneva, Switzerland: World Health Organisation.

WHO. (2006). *Child Growth Standards.* Geneva, Switzerland: World Health Organization.

WHO. (2008). *Indicators for Assessing Infant and Young Child Feeding Practices: Part 1 Definitions.* Geneva, Switzerland: World Health Organisation.

WHO and UNICEF. (2006). *Core Questions on Drinking Water and Sanitation for Household Surveys.* Geneva, Switzerland.

Zaman, S., Ashraf, R. N., & Martines, J. (2008). Training in complementary feeding counselling of healthcare workers and its influence on maternal behaviours and child growth: A cluster-randomized controlled trial in Lahore, Pakistan. *Journal of Health, Population and Nutrition, 26*(2), 210-222.

Zhang, J., Shi, L., Chen, D.-F., Wang, J., & Wang, Y. (2013). Effectiveness of an educational intervention to improve child feeding practices and growth in rural China: updated results at 18 months of age. *Maternal and Child Nutrition, 9*, 118-129.

Annex A How to read the tables and figures

Throughout this report, we present results in a number of different tables and figures. These tables and figures follow a standard format, and in this annex we describe how they are laid out.

A.1 Tables

The main style of table that we use in this report presents results for the same indicator at midline and endline in adjacent columns of the same table, under the headings 'Midline' and 'Endline'. The majority of our tables pertain to our main analysis sample, consisting of households with a pregnant woman at baseline, but for some key indicators we also report results for households that did not include a pregnant woman at baseline.

An example of this is shown in Table 37 below.

Table 37: Example table – Midline and Endline results

	Midline			Endline			ML-EL diff.
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)	p-value
Dichotomous indicator	2669	34.8	-5.32**	2159	29.8	-4.77**	0.81
			(2.11)			(2.08)	
Continuous indicator‡	2669	-1.7	0.04	2159	-1.5	0.06	0.71
		(1.2)	(0.06)		(1.0)	(0.05)	
Categorical indicator with multiple options/responses							
Option/response 1	3222	55.9	-1.51	2849	56.8	-2.08	0.84
			(2.32)			(2.19)	
Option/response 2	3222	43.5	1.62	2849	43.0	1.83	0.94
			(2.30)			(2.21)	
Option/response 3	3222	0.6	-0.11	2849	0.2	0.25	0.37
			(0.36)			(0.26)	
Notes: ‡*Notes for continuous indicator*							

The columns reported in this table are as follows:

- **N:** The total number of observations used. This indicates the **number** of observations in the sample that were used to construct the indicator. The number of observations that a result is based on gives an indication of how certain we can be about the precision of the estimate in question. The more respondents that answer a question, the more certain we can be that the estimate reflects the true situation.
- **Non-CDGP mean (SD):** The unweighted mean (and SD, for continuous indicators) in the non-CDGP villages. The **mean** is the average of the answers that were given by the respondents for each question. The mean is reported as a percentage for dichotomous indicators (e.g. owning a bicycle) and in the relevant unit of measurement for continuous indicators (e.g. height of child). The **SD** is a measure that is used to quantify the amount of variation or dispersion in the answers that were given by the respondents. A SD close to 0 indicates that the answers were very close to the mean, while a high SD indicates that the answers were spread out over a wider range of values. SDs are reported only for continuous indicators.

- **Effect (SE):** the effect of the CDGP on the indicator in question, as obtained by the methodology outlined in Section 2.2 of this report and presented in more detail in Section 5 of Volume II.
    - The mean effect is presented on top, giving the size of the effect of the CDGP in the same unit of measurement as means in previous columns – e.g. percentage points for dichotomous indicators.
    - The SE of the effect is presented below. Intuitively, the SE captures the level of uncertainty around the estimated effect: if the SE is small compared to the mean, it suggests that the effect is precisely estimated.
    - When the effect is estimated to be statistically significant (i.e. statistically different from zero), we mark it with a series of asterisks:

        * = significant at the 90% level
        ** = significant at the 95% level
        *** = significant at the 99% level

    This means that the more asterisks that are shown, the more likely that the observed difference between non-CDGP and CDGP households is due to a real effect of the programme, rather than being due to chance. However, it is important to note that, by design, 5% of the time the difference will be shown as significant when actually there is no real difference between the two groups. It is important to note that, where results are not asterisked, this does not mean that there is no effect of the CDGP, but rather that any difference cannot be asserted with such a high degree of confidence (90% or more).
- **ML-EL diff, p-value:** The final column reports the p-value from a test for the hypothesis that the effect for the indicator in question estimated at midline is the same size as the effect estimated at endline. This can be interpreted similarly to the significance stars above: a p-value below .01 corresponds to a difference that is significant at the 99% level, a p-value below .05 corresponds to a 95% significance level, and a p-value below .1 to 90% significance.

In tables, footnotes are indicated by the symbols '⁺', '‡' or '†', and the notes themselves are given at the bottom of the table.

Some indicators are only observed at endline – e.g. the development of children born after the midline. In these cases, we omit the 'midline' group of columns, and the last column containing the test of the midline-endline difference, and simply retain the 'endline' columns.

A slightly different version of this table is used in Annex D of this report, where we investigate differential effects by programme status, i.e. low- versus high-intensity versions of the SBCC component. An example of this is shown below in Table 38.

Table 38: Example table 2 – Low- versus high-intensity comparison

	Midline					Endline				
		Non-CDGP	Low-int	High-int	LI-HI diff.		Non-CDGP	Low-int	High-int	LI-HI diff.
	N	Mean (SD)	CDGP effect (SE)	CDGP effect (SE)	p-value	N	Mean (SD)	CDGP effect (SE)	CDGP effect (SE)	p-value
Dichotomous indicator	3113	83.2	7.57***	8.06***	0.77	2802	91.5	4.82***	5.93***	0.34
			(2.17)	(2.14)				(1.36)	(1.35)	

In this table, each group corresponding to midline and endline has five columns:

- **N:** The total number of observations used (as above).
- **Mean (SD) in the non-CDGP group:** The unweighted mean (and SD, for continuous indicators) in the non-CDGP communities (as above).
- **Effect (SE) in low-intensity and high-intensity communities:** The effect of the CDGP on the indicator in question, as obtained by the methodology outlined in Section 2.2 and presented in more detail in Section 5 of Volume II of this report, separately for households residing in low- and high-intensity communities.
- **LI-HI diff.:** The p-value from a test for the hypothesis that the effect for the indicator in question estimated in the low-intensity communities is the same as the effect estimated in high-intensity communities. Low p-values indicate high confidence that the effects presented in the previous two columns are different from one another, i.e. that the CDGP had a differential impact in its two treated arms.

Finally, we adopt a slightly different table format when we investigate the features of the programme, an example of which is in Table 39, focusing on a single categorical indicator. In this case, we are not interested in the effect of the CDGP but in the different ways in which the programme was implemented in the three groups of communities, i.e. non-CDGP, low-intensity SBCC, and high-intensity SBCC.

Table 39: Example table 3 – Programme implementation

	Midline				Endline			
		Low-int	High-int	HI-LI diff		Low-int	High-int	HI-LI diff
	N	Mean (SD)	Mean (SD)	p-value	N	Mean (SD)	Mean (SD)	p-value
Categorical indicator								
Option/response 1	2460	17.7	17.5	0.96	2637	23.8	23.1	0.09
Option/response 2	1735	19.4	18.7	0.26	1826	24.0	23.3	0.21
Continuous indicator	2460	53.8	53.0	0.96	2637	72.2	70.0	0.09
		(18.4)	(18.6)			(18.3)	(18.7)	

In these table, we present the midline and endline results in a similar manner to the effects tables, with the following columns:

- **N**, the number of observations;
- **Mean (SD)** for the different groups of communities, i.e. non-CDGP, low-intensity, and high-intensity; and
- **HI-LI diff**, which presents the p-value of the hypothesis that the mean of each indicator is the same in low- and high-intensity villages.

The example in Table 39 excludes non-CDGP communities, but there are examples in the text of tables with an additional column with mean and SD for non-CDGP communities

A.2 Figures for effects

We adopt a number of different figure types to visualise the main results in the report. These can be categorised as follows:

1. figures that visualise the **effect** of the CDGP;
2. figures that visualise effects across the distribution of a continuous indicator (**quantile effects**); and
3. figures that visualise categorical data[70] and figures that visualise continuous data.[71] These are described in more detail below.

The main interest in the report is to analyse the effects of the CDGP on various indicators. The tool we use to visualise these effects is a combination of a horizontal bar chart and a coefficient plot. An example of this chart is presented in Figure 49.[72]

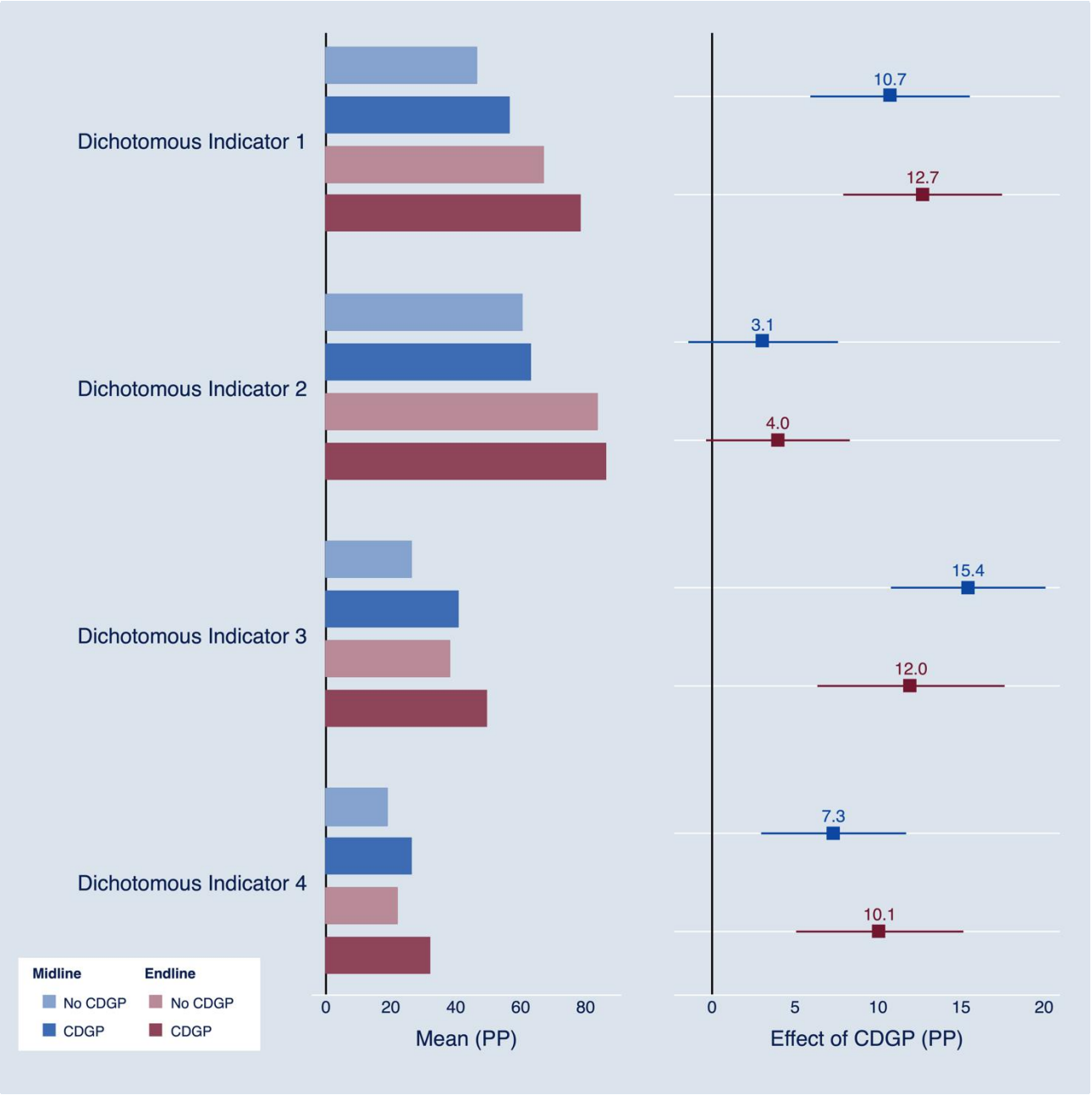
On the very left side of the chart, the names of the indicators are displayed. Next to the names, a horizontal bar chart is used to show the mean levels of the indicator among households living in communities where the CDGP is not present and where it is present, in dark blue (midline) and dark red (endline) respectively. Just like for the tables, means are expressed in percentage points (PP) for dichotomous indicators and in the relevant unit of measurement for continuous indicators. The unit of measurement is always reported on the horizontal axis at the bottom of the bar chart.

The rightmost section of the graph shows the effect of the CDGP on the indicator in a coefficient plot. A vertical line denotes zero (no effect) as a reference point. A square with a number on top represents the estimate of the mean effect of the CDGP on the indicator, expressed in the same unit of measurement as the means in the horizontal bars to the left. This estimate is the same as the one reported in the tables that represent effects of the CDGP, exemplified in Table 37. The more to the right (left) of the zero line this point is, the larger the positive (negative) effect of the CDGP on the indicator.

A horizontal dark line shows the 95% confidence interval for the estimate of the mean. This interval is directly proportional to the SE of the mean effect, and conveys the precision of our estimate of that effect. The narrower the interval, the more precise the estimate.[73] If the confidence interval does not overlap with the vertical zero line it means that the effect is statistically different from zero at the 95% level.

[70] Categorical data are data where the outcome can take one of a limited number of possible values, thus assigning each individual or household to a particular group or category (e.g. type of toilet).
[71] Continuous data are data where the outcome can be measured on a continuum or scale (e.g. height of a child).
[72] It is important to notice that the means and the estimates of the effects presented in these figures are the same as the ones presented in the tables, of which Table 37 is an example.
[73] In particular, the confidence interval represents the following probabilistic idea: if we were able to draw a large number of samples of the same size or the CDGP sample from the reference population, we would expect the mean of the indicator to fall within the confidence interval in 95% of the cases.

Figure 49: Example figure: Effects



A.3 Figures for quantile effects

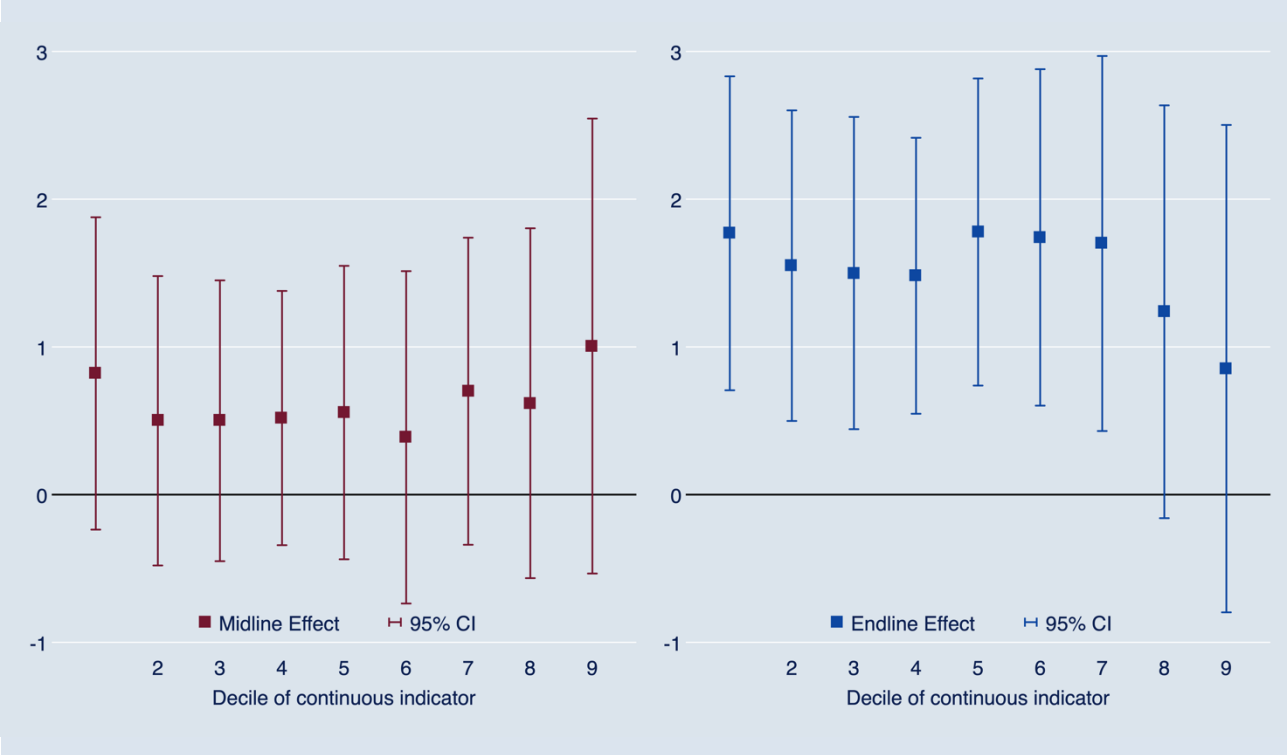
It is sometimes of great interest to assess the effects of the CDGP not only on the mean of a continuous indicator but also on its distribution.[74] For example, it might be the case that the effect of the CDGP on children's weight is larger for children that are thinner; presenting only the effect on mean weight might confound this aspect. To shed more light on this, we present some results from quantile regression for a select group of indicators, e.g. wealth, expenditures, children's anthropometric measurements, etc. (see Section 5.9 in Volume II for the details of this methodology).

An example of a quantile effect chart is in Figure 50. The interpretation of these charts is very similar to the effect coefficient plots presented above, where the estimates are denoted by squares and the confidence interval is the line on both sides. However, instead of showing the mean effect

[74] This is not applicable to dichotomous indicators, which have discrete distribution.

of the CDGP on different indicators, the chart shows the effect of the CDGP at different points (quantiles) of the distribution of the same indicator. Also, the chart's axes are reversed, so that lower to higher quantiles are intuitively shown from left to right. We choose to present nine deciles, which correspond to the 10th, 20th, 30th, …, 90th percentiles of the distribution.

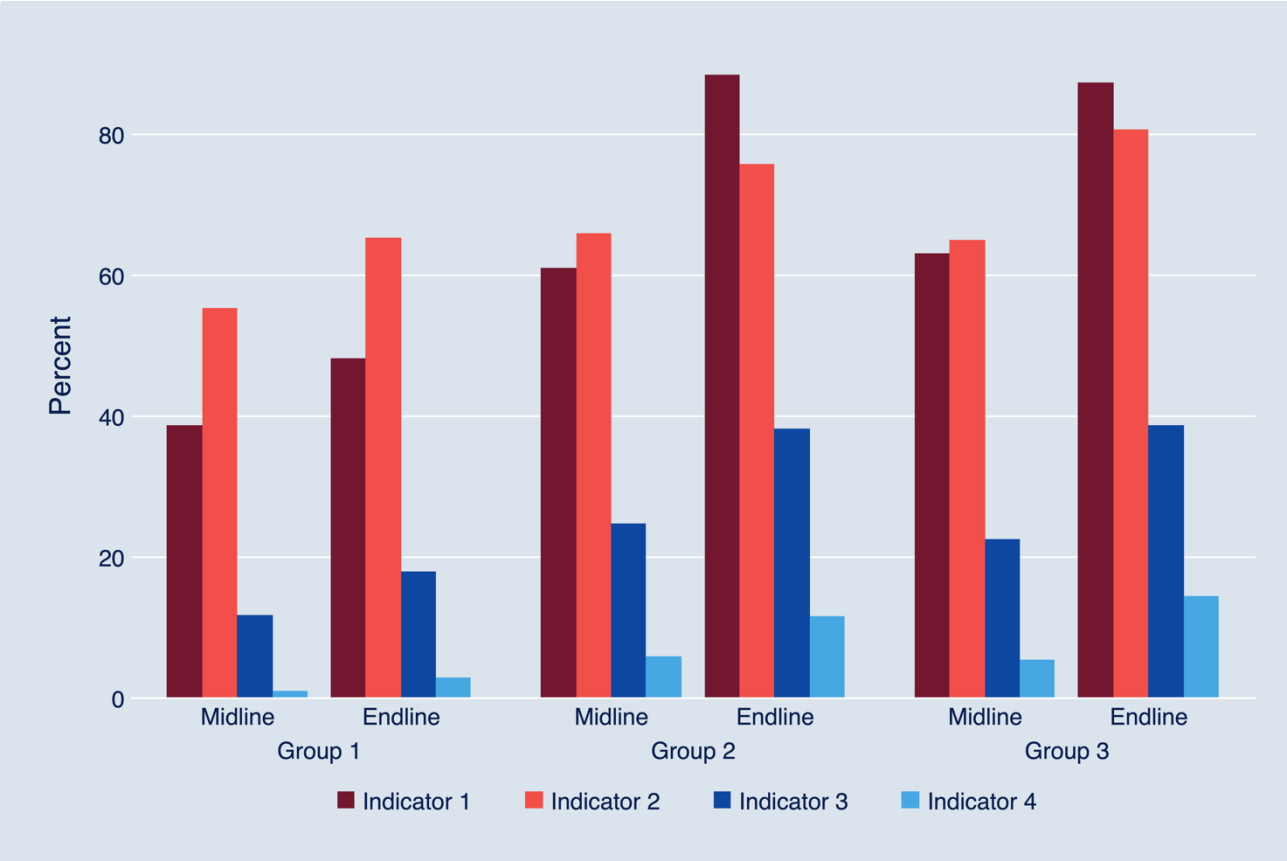
Figure 50: Example figure: Quantile effects



A.4 Figures for distributions of categorical data

An example of a bar chart is presented in Figure 51. This chart presents one or more indicators disaggregated by the categories of another variable (e.g. percentage of communities affected by flood, disaggregated by LGA). The mean value of the indicator in each category can be read on the vertical axis.

Figure 51: Example figure: Bar chart



Annex B Treatment effects on the treated

As described in Section 2.2, all estimates of the effect of the CDGP contained in this report are estimated using an ITT approach. This means they are derived from the comparison of households residing in CDGP communities versus non-CDGP communities, regardless of whether women in those households who were pregnant at baseline actually participated in the CDGP. In this section we present alternative results that estimate the impact of the CDGP on households where women did actually participate. Such estimates are known as the ToT effects.

The ITT specification that we use for our main analysis has the advantage of abstracting from possible risks of selection bias. Comparing the outcomes of women who actually participated in the CDGP intervention with those who did not could result in misleading conclusions if these two groups are systematically different from one another in other respects aside from their participation in the CDGP. Furthermore, the nature of the CDGP intervention makes it less than straightforward to define *participation* in the first place, which is needed for estimating ToT. For example, defining participation as having received at least one payment will lead to different estimates than defining it as having received at least a year's worth of payments. This becomes even more problematic when considering the informational component of the CDGP, where exposure is more imperfectly measured and the concept of participation in informational channels, or receipt of information, is more ambiguous. This is because there are multiple SBCC channels so many different possible definitions are possible.[75] Thus there may be different approaches to defining what it means to have 'participated' in the CDGP, and each definition may give different results and be highly subjective. These limitations underscore why we prefer to present ITT estimates for the body of the report.

However, although robust to selection issues and the issue of different definitions of participation, the ITT estimation strategy also has shortcomings. ITT estimates are likely to underestimate the effect of actually receiving the CDGP intervention. This is because some women who were pregnant at baseline living in CDGP communities never ended up participating in the CDGP, while at the same time, some women who were pregnant at baseline living in non-CDGP communities did in fact participate in it (see Section 3). Therefore, in the interest of providing a complete picture of the impacts of the CDGP, we provide ToT estimates in this annex. We recommend some caution in the interpretation of these estimates, given the limitations outlined above; however, they are illustrative of the extent to which our main ITT estimates may be under-reported.

To calculate ToT estimates, we define receipt of the CDGP as having received at least one grant payment at the time of the midline / endline survey, regardless of whether the household resided in a CDGP village. We do not consider the SBCC component in this definition, since exposure to communication activities is harder to measure and might lead to estimates that are hard to interpret.

We estimate an instrumental variable model, where we regress each outcome on the receipt indicator and instrument this indicator with a dummy for the household residing in a CDGP village. This procedure recovers a particular type of ToT effect known as local average treatment effect (LATE) (Imbens and Angrist, 1994): it is the average impact of the CDGP on *compliers* – that is, households in CDGP villages where women have participated in the CDGP.[76] We believe that this sub-group represents many of the CDGP households, given the high take-up rate in CDGP villages

[75] For example: having been exposed to at least one SBCC channels, or two SBCC channels, or having attended at least one food demonstration plus one other SBCC channel etc.

[76] The main assumptions behind this technique are that the CDGP affects outcomes only through receipt of the grant (*exclusion restriction*), and that there are no women that would receive the grant only if they were *not* offered it, but would *not* receive it if they were offered it (*monotonicity*).

and the low contamination in non-CDGP communities. The rationale for a LATE estimation comes from the idea that we can distinguish two different forms of treatment: assignment to receive the treatment and the actual receipt of treatment. In our case, the difference relates to being in a treatment community (assignment) versus actually getting the cash transfer or SBCC (receipt). The key identifying assumption for the LATE estimation to be unbiased is the following: that being assigned to treatment (i.e. being resident in a CDGP village and pregnant during the intervention period) has no independent effect on the outcome variable of interest: *only actually receiving the treatment has an effect on the outcome.*

In Table 40, we present ITT and LATE estimates for a subset of key indicators from the report. The formatting of the table is slightly different than for other tables in this report. The first column shows the number of observations, the second shows the mean for each indicator in the non-CDGP communities, the third presents the ITT estimate (the same as in the main results section of this report), and the final column shows the LATE estimate, which is defined in this section.

Table 40 to Table 43 show that, as expected, LATE estimates are always larger in magnitude than ITT estimates. This is predictable, since LATE takes into account the fact that some households in CDGP communities have not participated and other households in non-CDGP communities did receive the grant, thereby deflating the ITT estimates. However, the overall picture of the impact of the CDGP in terms of significance does not appreciably change – that is, the same indicators where we find a statistically significant effect of the CDGP when measured through an ITT specification are also significant when estimated by LATE, and there are no additional indicators emerging as significant when impact is estimated using LATE.

Table 40: Household livelihoods – ToT estimates

	Midline				Endline			
	N	Non-CDGP mean (SD)	ITT (SE)	LATE (SE)	N	Non-CDGP mean (SD)	Effect (SE)	LATE (SE)
% women with any paid or unpaid work in the past 12 months†	3118	76.61	6.19***	8.08***	2807	80.7	10.76***	13.36***
			(1.88)	(2.38)			(1.57)	(1.92)
Total woman monthly earnings from paid labour, NGN††					2802	829.3	140.22	174.38
						(5623.4)	(237.79)	(294.20)
Monthly woman business profit (revenue net of input cost), NGN†††					2771	268.3	-154.93	-191.14
						(10652.6)	(563.89)	(692.36)
Total husband monthly earnings from paid labour, NGN††					2398	15510.2	-805.36	-1213.17
						(41942.1)	(2026.71)	(2508.90)
Monthly husband business profit (revenue net of input cost), NGN†††					2713	-958.1	959.67	1142.12
						(21871.4)	(1057.05)	(1306.11)
Total woman and husband earnings and profit, NGN					2774	12604.4	172.05	212.62
						(46187.7)	(2250.89)	(2764.29)
% women cultivating any land in past 12 months	3113	4.97	0.51	0.66	2807	1.67	1.37*	1.70*
			(1.09)	(1.43)			(0.73)	(0.91)

Women crop sales in past 12 months, NGN‡	3113	154.62	301.94**	394.80**	2807	106.17	808.34*	1003.98*
		(2047.61)	(126.98)	(165.07)		(1661.49)	(461.31)	(572.66)
% husbands cultivating any land in past 12 months	3139	96.48	-0.85	-1.14	2766	97.67	0.72	0.91
			(0.89)	(1.15)			(0.65)	(0.79)
Husbands' crop sales in past 12 months, NGN‡	2341	15.99	-0.67	-0.51	1919	14.15	2.24	2.73
		(24.12)	(1.13)	(1.51)		(23.56)	(1.38)	(1.68)
% households owning any animals	3222	89.82	0.22	0.39	2849	89.36	5.06***	6.32***
			(1.36)	(1.76)			(1.53)	(1.86)
% women owning any animal themselves	3118	78.30	6.54***	8.53***	2807	78.16	12.11***	15.03***
			(1.94)	(2.49)			(2.12)	(2.53)
HHS	3118	0.32	-0.09**	-0.11**	2807	0.49	-0.28***	-0.34***
		(0.79)	(0.04)	(0.05)		(1.13)	(0.05)	(0.07)
% households without enough food at some point in previous year	3118	28.64	-6.27***	-8.20***	2807	29.05	-11.56***	-14.36***
			(2.38)	(3.04)			(2.42)	(2.97)

Source: CDGP baseline, midline, and endline survey data. Notes: †Excluding housework and childcare. ††Derived by summing earning across all work activities that are carried out for pay. Values above the 99th percentile are converted to missing values. This includes zeros for subjects who report no paid activities. †††Derived by summing revenues and expenditures across all business activities. This includes zeros for subjects who report no business activities. ‡Values above the 99th percentile are converted to missing values. The value is zero if there were no sales in the past 12 months.

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. ITT = the adjusted difference in means between CDGP and non-CDGP communities. LATE = the ToT.
4. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
5. The ITT is estimated by OLS regression. The LATE is estimated by two-stage least squares (2SLS) regression as detailed in Annex B. All estimates control for LGA and tranche fixed effects, and are adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Table 41: KAP – ToT estimates

	Midline				Endline			
	N	Non-CDGP mean (SD)	ITT (SE)	LATE (SE)	N	Non-CDGP mean (SD)	Effect (SE)	LATE (SE)
Women								
% who would advise a pregnant woman to visit a health facility for a check-up if she is healthy and nothing is wrong	3113	83.22	7.83***	10.26***	2802	91.50	5.38***	6.71***
			(1.99)	(2.52)			(1.22)	(1.45)
% who say the best place for a woman to give birth is at a health facility	3118	22.70	12.20***	15.96***	2807	33.54	17.44***	21.67***
			(2.70)	(3.39)			(2.91)	(3.27)
% thinking it is best to start breastfeeding immediately or within 30 minutes of birth	3106	42.71	26.53***	34.74***	2802	64.64	18.75***	23.42***
			(2.79)	(3.46)			(2.49)	(2.93)
% thinking it is never ok to give a baby under six months water					2806	30.51	44.87***	55.75***
							(3.21)	(3.43)
% thinking a baby should be breastfed exclusively for six months	3118	42.12	34.80***	45.51***	2807	41.90	39.81***	49.50***
			(3.16)	(3.58)			(3.38)	(3.58)
Husbands								
% who would advise a pregnant woman to visit a health facility for a check-up if she is healthy and nothing is wrong	1934	89.01	4.65***	6.15***	1314	93.82	2.00	2.67
			(1.79)	(2.34)			(1.39)	(1.75)
% who say the best place for a woman to give birth is at a health facility	1938	28.82	11.35***	13.90***	1316	39.74	17.64***	21.86***
			(3.22)	(4.12)			(3.39)	(4.26)
% thinking it is best to start breastfeeding immediately or within 30 minutes of birth	1667	37.45	12.61***	16.12***	1225	50.47	12.73***	16.82***
			(2.96)	(3.81)			(3.70)	(4.72)
% thinking it is never ok to give a baby under six months water					1309	21.95	26.81***	33.82***
							(3.24)	(3.74)
% thinking a baby should be breastfed exclusively for six months	1938	25.76	23.47***	30.39***	1316	29.36	25.60***	32.32***
			(2.82)	(3.64)			(3.47)	(4.25)

Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. ITT = the adjusted difference in means between CDGP and non-CDGP communities. LATE = the ToT.
4. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
5. The ITT is estimated by OLS regression. The LATE is estimated by 2SLS regression as detailed in Annex B. All estimates control for LGA and tranche fixed effects, and are adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Table 42: Midline child nutrition and development – ToT estimates

	Midline				Endline			
	N	Non-CDGP mean (SD)	ITT (SE)	LATE (SE)	N	Non-CDGP mean (SD)	Effect (SE)	LATE (SE)
MDD (WHO)	2594	3.22	0.35***	0.46***	2184	4.02	0.34***	0.42***
		(1.49)	(0.07)	(0.09)		(1.17)	(0.07)	(0.08)
% of children who had an illness or injury in the past 30 days	2714	69.60	-8.53***	-11.06***	2207	73.24	-12.02***	-14.35***
			(2.36)	(3.02)			(2.39)	(2.95)
% of children who had diarrhoea in the past two weeks	2712	37.80	-6.90***	-8.62***	2203	31.58	-9.30***	-11.14***
			(2.21)	(2.80)			(2.36)	(2.85)
Height-for-age (HAZ)	2669	-2.46	0.20***	0.24***	2159	-2.47	0.12**	0.14*
		(1.33)	(0.07)	(0.09)		(1.08)	(0.06)	(0.07)
% who are classed as stunted (HAZ < -2)	2669	66.16	-5.22**	-6.45**	2159	66.81	-4.87*	-5.82*
			(2.43)	(3.07)			(2.55)	(3.07)
Weight-for-age (WAZ)	2669	-1.73	0.03	0.03	2159	-1.50	0.05	0.05
		(1.19)	(0.06)	(0.07)		(0.97)	(0.05)	(0.07)
% who are classed as underweight (WAZ < -2)	2669	40.07	-0.56	-0.57	2159	30.21	-2.60	-3.03
			(2.24)	(2.86)			(2.31)	(2.76)
Height-for-weight (WHZ)	2669	-0.63	-0.12**	-0.15**	2159	-0.07	-0.05	-0.06
		(1.13)	(0.05)	(0.07)		(0.99)	(0.06)	(0.07)
% wasted (WHZ < -2)	2669	11.16	3.02**	3.82**	2159	3.40	-0.65	-0.86
			(1.27)	(1.61)			(0.72)	(0.90)
MUAC	2718	140.07	3.68	4.60	2175	154.93	-0.74	-1.10
		(66.81)	(2.95)	(3.45)		(56.35)	(2.29)	(2.78)
% who are classed as malnourished (MUAC < 125)	2694	17.56	1.15	1.36	2169	1.69	-0.72	-0.89
			(1.68)	(2.13)			(0.59)	(0.72)
Communication skills	2528	25.15	1.11	1.44	2206	52.95	-0.10	-0.01
		(16.63)	(0.95)	(1.21)		(11.31)	(0.67)	(0.80)
Gross motor skills	2528	35.82	1.43	1.91	2206	51.95	0.30	0.39
		(17.92)	(1.01)	(1.27)		(12.08)	(0.71)	(0.86)
Personal-social skills					1511	59.65	-2.81	-3.45
						(32.72)	(2.02)	(2.48)

Source: CDGP baseline, midline, and endline survey data. For definitions of the indicators used in this table, see Table 19 and Table 32.
Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. ITT = the adjusted difference in means between CDGP and non-CDGP communities. LATE = the ToT.
4. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
5. The ITT is estimated by OLS regression. The LATE is estimated by 2SLS regression as detailed in Annex B. All estimates control for LGA and tranche fixed effects, and are adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Table 43: Endline child nutrition and development – ToT estimates

	Endline			
	N	Non-CDGP mean (SD)	ITT (SE)	LATE (SE)
MDD (WHO)	1661	2.66	0.62***	0.75***
		(1.67)	(0.10)	(0.11)
% of children who had an illness or injury in the past 30 days	1885	63.30	-8.57***	-10.53***
			(2.62)	(3.18)
% of children who had diarrhoea in the past two weeks	1885	32.42	-6.35**	-7.89**
			(2.58)	(3.11)
Height-for-age (HAZ)	1854	-1.78	0.03	0.05
		(1.61)	(0.10)	(0.12)
% who are classed as stunted (HAZ < -2)	1854	45.81	1.89	2.14
			(2.57)	(3.08)
Weight-for-age (WAZ)	1854	-1.61	0.08	0.10
		(1.39)	(0.08)	(0.09)
% who are classed as underweight (WAZ < -2)	1854	39.44	-2.14	-2.73
			(2.61)	(3.14)
Height-for-weight (WHZ)	1854	-0.94	0.08	0.10
		(1.26)	(0.06)	(0.08)
% Wasted (WHZ < -2)	1854	19.57	-1.75	-2.21
			(1.83)	(2.21)
MUAC	1883	133.23	1.84**	2.29**
		(13.75)	(0.89)	(1.07)
% who are classed as malnourished (MUAC < 125)	1882	21.87	-3.01	-3.83
			(2.18)	(2.60)
Communication skills	1829	29.93	1.47	1.65
		(17.51)	(1.11)	(1.34)
Gross motor skills	1829	36.99	0.62	0.79
		(19.37)	(1.08)	(1.30)
Personal-social skills	1829	49.88	1.93	2.39
		(42.16)	(2.18)	(2.64)

Source: CDGP baseline, midline, and endline survey data. For definitions of the indicators used in this table, see Table 19 and Table 32. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. ITT = the adjusted difference in means between CDGP and non-CDGP communities. LATE = the ToT.
4. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
5. The ITT is estimated by OLS regression. The LATE is estimated by 2SLS regression as detailed in Annex B. All estimates control for LGA and tranche fixed effects, and are adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Annex C Impacts for households without a pregnant woman at baseline

In this annex we report impacts of the CDGP on households that did not have a pregnant woman residing in them at baseline, but had a woman who was considered likely to become pregnant in the near future.

As discussed in Section 2.2.3, the main set of results we have presented in this report are based on the sample of households that did contain a woman who was pregnant at baseline. However, it is worthwhile to also consider impacts arising on the other sub-sample, as these results may tell us something different about whether and how the impacts of CDGP have changed as the programme has matured. Recall from Section 2.3 that our main results correspond to the impacts of a relatively 'early' version of the programme, on households that were immediately eligible to receive it. The other sample of households with women who were not already pregnant during the baseline period, but became pregnant and received the CDGP later on in its implementation, may have experienced the programme differently. Thus, the results for this sub-sample provide some indication of whether impacts differ for households exposed to a more established version of the programme. Uptake of the CDGP payments among this second sub-sample is also high. In Table 30 of Volume II, we show that 86% of women in low-intensity communities and 87% in high-intensity communities had ever received payments from CDGP by the time of the endline.

To measure the impact of CDGP for this sub-sample, we adopt the same estimation strategy as we use in our main results: that is, adopting an ITT approach and using the same regression specification. The main caveat to make regarding the results shown in this annex is that there is a greater risk of bias in the estimated impacts for households where a woman was not already pregnant at baseline. The results may be biased if woman in CDGP communities who were not already pregnant when the programme started disproportionately sought to become pregnant in order to become eligible for it. Our investigation of possible fertility effects of CDGP at endline (reported in Section 7.1) suggest that there has not been a fertility response due to the CDGP. We do not find evidence of more pregnancies taking place in CDGP communities compared with non-CDGP communities. This raises confidence that the impacts presented in this annex are not subject to selection bias; however, we cannot rule this out. A second point to note is that the sub-sample of households without a pregnant woman at baseline is also smaller than our main analysis sample. This may mean that the power of the estimation to detect significant impacts is reduced.

In the tables that follow, we estimate impacts on this sub-sample for a limited set of indicators. The tables display our main results for households with a pregnant woman at baseline next to the new findings on households that did not contain a pregnant woman at baseline. This allows the two sub-samples to be compared directly.

Overall, we observe a very similar pattern of impacts between these two sub-samples. Starting from Table 44, we find similar impacts between the two sub-samples on the proportion of women engaged in any paid or unpaid work, the proportion of households owning any livestock, and the proportion of women who own any livestock themselves. We also continue to observe an impact on profits from business activities for men. This is slightly larger than the corresponding impact for the main analysis sample. We also observe similar impacts between the two groups in terms of food insecurity and access to sufficient food.

The only dimension where we do not observe comparable impacts between these two sub-samples is in crop cultivation, where for the sample of households without a pregnant woman at baseline we do not find any impact of CDGP on the proportion of women cultivating land, or in their

earnings from crop sales. Note however that these impacts on the main analysis sample were relatively small and only weakly significant.

Table 44: Household livelihoods – comparing impacts between households with and without a pregnant woman at baseline

	Households WITH a pregnant woman at baseline			Households WITHOUT a pregnant woman at baseline		
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)
% women with any paid or unpaid work in the past 12 months†	2807	80.7	10.76***	1362	80.0	8.94***
			(1.57)			(2.58)
Total woman monthly earnings from paid labour, NGN††	2802	829.3	140.22	1360	688.8	219.42
		(5623.4)	(237.79)		(5152.7)	(347.41)
Monthly woman business profit (revenue net of input cost), NGN†††	2771	268.3	-154.93	1349	-407.3	-346.91
		(10652.6)	(563.89)		(10389.1)	(612.33)
Total husband monthly earnings from paid labour, NGN††	2335	9554.0	203.06	1149	10112.3	-720.36
		(22452.5)	(1191.18)		(21683.7)	(1607.01)
Monthly husband business profit (revenue net of input cost), NGN†††	2629	25.6	1088.59*	1270	-1117.1	1634.99**
		(12247.0)	(653.17)		(13012.3)	(791.15)
Total woman and husband earnings and profit, NGN	2780	8260.2	1381.08	1352	7640.0	1278.42
		(25239.4)	(1230.93)		(25812.7)	(1697.90)
% women cultivating any land in past 12 months	2807	1.7	1.37*	1364	1.7	-0.35
			(0.73)			(0.91)
Women crop sales in past 12 months, NGN‡	2807	106.2	809.03*	1364	182.2	154.63
		(1661.5)	(461.59)		(2317.6)	(220.69)
% husbands cultivating any land in past 12 months	2766	97.7	0.71	1345	97.8	0.17
			(0.65)			(0.82)
Husbands' crop sales in past 12 months, NGN‡	2618	102.0	1156.47	1286	121.8	-38.93
		(361.2)	(1052.17)		(636.6)	(37.36)
% households owning any animals	2849	89.4	4.73***	1386	87.3	5.50***
			(1.56)			(1.94)
% women owning any animal themselves	2807	78.2	11.60***	1362	79.1	9.99***
			(2.15)			(2.47)
HHS	2807	0.5	-0.28***	1364	0.5	-0.29***
		(1.1)	(0.05)		(1.1)	(0.07)
% households without enough food at some point in previous year	2807	29.0	-11.56***	1362	31.7	-13.32***
			(2.42)			(3.06)

Source: CDGP baseline, midline, and endline survey data. Notes: †Excluding housework and childcare. ††Derived by summing earning across all work activities that are carried out for pay. Values above the 99th percentile are converted to missing values. This includes zeros for subjects who report no paid activities. †††Derived by summing revenues and expenditures across all business activities. This includes zeros for subjects who report no business activities. ‡Values above the 99th percentile are converted to missing values. The value is zero if there were no sales in the past 12 months.

1. In this table we compare two sub-samples. The first three columns report results for a sub-sample of households of women who were pregnant at the time of the baseline survey in 2014. The second three columns report results for households of women who were not pregnant at the time of this baseline survey. We interviewed these women and their husbands and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.

4. The 'Effect' is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Table 45 reports results on KAP for women and their husbands. We again find very similar impacts between the two sub-samples of households, with strong impacts on KAP indicators observed in the sample of women without a pregnant woman at baseline. Although, there is no impact for this sub-sample on the proportion of women who believe that a pregnant woman should visit a health facility for a check-up, even if she is healthy and nothing is wrong, or in men who believe that the best place for women to give birth is in a health facility, and that it is best to start breastfeeding immediately. Nonetheless, the point estimate attached to these indicators is still positive for the sub-sample of households without a pregnant woman at baseline. It may also reflect the fact that the sample size of households without a pregnant woman at baseline was relatively smaller, making the power of the analysis to detect significant effects weaker. This is reflected in larger standard errors attached to the impact estimates in the column titled 'CDGP effect'.

Table 45: KAP – comparing impacts between households with and without a pregnant woman at baseline

	Households WITH a pregnant woman at baseline			Households WITHOUT a pregnant woman at baseline		
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)
Women						
% who would advise a pregnant woman to visit a health facility for a check-up if she is healthy and nothing is wrong	2802	91.5	5.39***	1359	94.8	1.39
			(1.22)			(1.30)
% who say the best place for a woman to give birth is at a health facility	2807	33.5	17.45***	1362	37.6	17.62***
			(2.91)			(3.36)
% thinking it is best to start breastfeeding immediately or within 30 minutes of birth	2802	64.6	18.76***	1359	65.9	14.56***
			(2.49)			(3.42)
% thinking it is never ok to give a baby under six months water	2806	30.5	44.87***	1362	31.7	42.57***
			(3.21)			(3.61)
% thinking a baby should be breastfed exclusively for six months	2807	41.9	39.82***	1362	47.0	35.85***
			(3.39)			(3.76)
Husbands						
% who would advise a pregnant woman to visit a health facility for a check-up if she is healthy and nothing is wrong	1314	93.8	2.01	664	91.7	4.60**
			(1.39)			(2.00)
% who say the best place for a woman to give birth is at a health facility	1316	39.7	17.65***	665	45.6	7.59
			(3.39)			(4.76)
% thinking it is best to start breastfeeding immediately or within 30 minutes of birth	1225	50.5	12.74***	598	52.3	6.94
			(3.71)			(4.93)
% thinking it is never ok to give a baby under six months water	1309	22.0	26.81***	661	24.3	28.95***
			(3.24)			(4.21)
% thinking a baby should be breastfed exclusively for six months	1316	29.4	25.61***	665	34.6	27.91***
			(3.47)			(4.32)

Source: CDGP baseline, midline, and endline survey data. Notes:
1. In this table we compare two sub-samples. The first three columns report results for a sub-sample of households of women who were pregnant at the time of the baseline survey in 2014. The second three columns report results for households of women who were not pregnant at the time of this baseline survey. We interviewed these women and their husbands and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
4. The 'Effect' is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

In Table 46 and Table 47 we turn to the results on child health and nutrition, considering first the 'midline' child (the sample of children born in between the baseline and midline surveys), and then the younger 'endline' child (the sample of children born between the midline and endline surveys). We again see similar reported impacts, in terms of CDGP improving dietary diversity of sampled children and the proportion suffering from a recent illness, injury or episode of diarrhoea. However, we do not find an impact on reduced stunting among the sample of 'midline' children born in households where there was no pregnant woman at baseline. This potentially underscores the relative weakness of this result in our main analysis sample. As above, it may also be a consequence of the smaller sample size for this analysis to detect significant effects. Notice that for the sample of midline children born to households without a pregnant woman at baseline, we also find a small and weakly significant impact of CDGP in reducing children's WHZ scores. However this does not translate into any impact on the proportion who are reported to be wasted.

Table 46: Midline child nutrition and development – comparing impacts between households with and without a pregnant woman at baseline

	Households WITH a pregnant woman at baseline			Households WITHOUT a pregnant woman at baseline		
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)
MDD (WHO)	2184	4.0	0.37***	758	3.8	0.56***
		(1.2)	(0.07)		(1.1)	(0.10)
% of children who had an illness or injury in the past 30 days	2207	73.2	-12.02***	771	71.6	-9.63**
			(2.39)			(3.96)
% of children who had diarrhoea in the past two weeks	2203	31.6	-9.30***	771	33.5	-8.61**
			(2.36)			(3.72)
Height-for-age (HAZ)	2159	-2.5	0.14**	753	-2.7	0.12
		(1.1)	(0.05)		(1.1)	(0.09)
% who are classed as stunted (HAZ < -2)	2159	66.8	-5.40**	753	74.2	-4.14
			(2.44)			(3.62)
Weight-for-age (WAZ)	2159	-1.5	0.06	753	-1.7	-0.03
		(1.0)	(0.05)		(1.0)	(0.08)
% who are classed as underweight (WAZ < -2)	2159	30.2	-2.96	753	37.7	0.03
			(2.22)			(3.45)
Height-for-weight (WHZ)	2159	-0.1	-0.04	753	-0.2	-0.15*
		(1.0)	(0.06)		(1.0)	(0.08)
% wasted (WHZ < -2)	2159	3.4	-0.67	753	4.0	1.71
			(0.73)			(1.59)
MUAC	2175	154.9	-0.68	757	147.9	2.53

		(56.4)	(2.31)		(12.4)	(2.57)
% who are classed as malnourished (MUAC < 125)	2169	1.7	-0.75	755	3.2	1.04
			(0.61)			(1.44)
Communication skills	2206	52.9	-0.10	772	48.1	0.33
		(11.3)	(0.67)		(14.4)	(1.17)
Gross motor skills	2206	51.9	0.30	772	47.2	0.83
		(12.1)	(0.71)		(15.0)	(1.28)
Personal-social skills	1511	59.6	-2.81	752	56.4	0.77
		(32.7)	(2.02)		(35.1)	(3.22)

Source: CDGP baseline, midline, and endline survey data. For definitions of the indicators used in this table, see Table 19 and Table 32.
Notes:

1. In this table we compare two sub-samples. The first three columns report results for a sub-sample of households of women who were pregnant at the time of the baseline survey in 2014. The second three columns report results for households of women who were not pregnant at the time of this baseline survey. We interviewed these women and their husbands and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
4. The 'Effect' is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Table 47 shows impacts for the same set of indicators for the sample of 'endline' children. The findings here are very similar between households with and without a pregnant woman at baseline. For both, we find comparable impacts on dietary diversity of endline children, the proportion of children with a recent illness, injury or diarrhoea. However, we observe very few impacts on anthropometric indicators; the single impact on increased MUAC of these children that we found in the sample of households with a pregnant woman at baseline is not present in the same of households that did not have a pregnant woman at baseline. We do, however, find an impact on improved communication skills of children in this age range among households that didn't have a pregnant woman at baseline.

Overall our results do not suggest that the impact of CDGP has altered over time as the programme as matured, comparing different 'cohorts' of household that were exposed to the programme at different periods of time.

Table 47: Endline child nutrition and development – comparing impacts between households with and without a pregnant woman at baseline

	Households WITH a pregnant woman at baseline			Households WITHOUT a pregnant woman at baseline		
	N	Non-CDGP mean (SD)	CDGP effect (SE)	N	Non-CDGP mean (SD)	CDGP effect (SE)
MDD (WHO)	1323	2.8	0.53***	506	2.6	0.47***
		(1.5)	(0.09)		(1.6)	(0.14)
% of children who had an illness or injury in the past 30 days	1885	63.3	-8.57***	854	53.4	-7.18*
			(2.62)			(3.86)
% of children who had diarrhoea in the past two weeks	1885	32.4	-6.35**	854	35.3	-10.52***
			(2.58)			(3.65)
Height-for-age (HAZ)	1854	-1.8	0.04	841	-1.6	-0.02
		(1.6)	(0.09)		(1.7)	(0.11)
% who are classed as stunted (HAZ < -2)	1854	45.8	1.75	841	44.1	-3.32
			(2.51)			(3.24)

Weight-for-age (WAZ)	1854	-1.6	0.08	841	-1.4	-0.04
		(1.4)	(0.07)		(1.4)	(0.10)
% who are classed as underweight (WAZ < -2)	1854	39.4	-2.24	841	34.8	-1.60
			(2.58)			(3.21)
Height-for-weight (WHZ)	1854	-0.9	0.08	841	-0.7	0.02
		(1.3)	(0.06)		(1.3)	(0.10)
% Wasted (WHZ < -2)	1854	19.6	-1.81	841	15.8	0.65
			(1.83)			(2.82)
MUAC	1883	133.2	1.94**	854	133.5	1.55
		(13.7)	(0.90)		(14.6)	(2.25)
% who are classed as malnourished (MUAC < 125)	1882	21.9	-3.12	852	23.3	1.56
			(2.17)			(2.83)
Communication skills	1829	29.9	1.47	810	30.0	3.57***
		(17.5)	(1.11)		(16.4)	(1.29)
Gross motor skills	1829	37.0	0.62	810	37.1	-0.06
		(19.4)	(1.08)		(18.9)	(1.59)
Personal-social skills	1829	49.9	1.93	810	56.3	0.43
		(42.2)	(2.18)		(50.3)	(3.43)

Source: CDGP baseline, midline, and endline survey data. For definitions of the indicators used in this table, see Table 19 and Table 32. Notes:

1. In this table we compare two sub-samples. The first three columns report results for a sub-sample of households of women who were pregnant at the time of the baseline survey in 2014. The second three columns report results for households of women who were not pregnant at the time of this baseline survey. We interviewed these women and their husbands and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD is reported for continuous indicators only.
3. Effect = the adjusted difference in means between CDGP and non-CDGP communities. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
4. The 'Effect' is estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Annex D Differences in impact between the two implementation models

As discussed in Section 4.4 of this report, due to finding smaller than expected differences in respondents' self-reported exposure to the two forms of the SBCC component between Treatment 1 and Treatment 2 communities, for most of the results presented in this report we have pooled the two treatment groups into one. In this section we revisit some of the earlier findings, but now explicitly examine whether there are in fact significant differences in outcomes for households in the low- and high-intensity SBCC communities (Treatment 1 and Treatment 2, respectively). Recall that our findings in Section 4.4 did not indicate that implementation of the two SBCC components was exactly identical. We did always find that high-intensity channels are more likely to have been accessed by women residing in high-intensity communities than those in low-intensity communities; however, we noted that these differences are smaller than anticipated. Nonetheless, the results in this section aim to uncover whether the two implementation models have in fact led to differential impacts.

These tables are presented slightly differently to the remainder of the tables in this volume. A guide to how to read the tables in this section is included in Annex A. Table 48 focuses on the knowledge and attitudes of women, and Table 49 repeats this for their husbands. From the column reporting the p-value associated with the difference in impact between low- and high-intensity communities, we see few differences that are significant. However, we do find a larger impact in high-intensity communities on some measures of beliefs about exclusive breastfeeding. There is a statistically larger impact in high-intensity communities on women believing that it is never ok to give a baby under six months water, as well as a larger impact on reducing the proportion who believe that it is acceptable to give a baby under six months water if it is very hot outside. This difference does not emerge for husbands.

Table 51 presents the same comparison across treatment arms but for child anthropometric measures. Generally, there are few significant differences in these outcomes between the high- and low-intensity treatment arms. However, interestingly, the results appear to show that the impacts of the CDGP on increasing HAZ scores and reducing the proportion of children classified as stunted are concentrated among those in low-intensity communities. We also find a statistically significant reduction in the proportion of children classified as underweight when focusing on low-intensity communities only. In terms of the anthropometrics of women, there are few significant differences in impact size. Although differences in impact are not generally statistically significant, we do find that impacts appear to be adverse in some cases in the high-intensity treatment group. Within this group there appears to be an impact on the proportion who are classified as underweight according to their BMI, and a negative impact on the proportion with a normal BMI. It is not clear what could explain this finding.

Table 48: Women's knowledge and attitudes on pregnancy and breastfeeding, low- vs high-intensity

	Midline					Endline				
		Non-CDGP	Low-int	High-int	LI-HI diff.		Non-CDGP	Low-int	High-int	LI-HI diff.
	N	Mean (SD)	CDGP effect (SE)	CDGP effect (SE)	p-value	N	Mean (SD)	CDGP effect (SE)	CDGP effect (SE)	p-value
Pregnancy and delivery										
% women who would advise a pregnant woman to visit a health facility for a check-up if she is healthy and nothing is wrong	3113	83.2	7.57***	8.06***	0.77	2802	91.5	4.82***	5.93***	0.34
			(2.17)	(2.14)				(1.36)	(1.35)	
% women who would advise a pregnant woman to eat more food						2807	65.9	7.69***	7.97***	0.91
								(2.60)	(2.59)	
% women who say the best place for a woman to give birth is at a health facility	3118	22.7	10.93***	13.39***	0.43	2807	33.5	16.23***	18.63***	0.48
			(3.26)	(2.97)				(3.44)	(3.30)	
Breastfeeding initiation										
% women thinking it is best to start breastfeeding immediately or within 30 minutes of birth	3106	42.7	25.24***	27.71***	0.40	2802	64.6	16.92***	20.54***	0.14
			(3.19)	(3.10)				(2.70)	(2.83)	
% women thinking it is best to start breastfeeding within one hour of birth	3106	63.2	18.60***	23.94***	0.02	2802	77.0	13.69***	16.03***	0.19
			(2.93)	(2.70)				(2.28)	(2.29)	
% women thinking babies should receive only breastmilk (and medicine) during the first three days						2807	34.5	30.29***	35.18***	0.09
								(3.21)	(3.11)	
% women thinking colostrum is good for the baby	3049	71.3	17.44***	21.12***	0.07	2773	78.3	14.76***	15.51***	0.71
			(2.67)	(2.51)				(2.26)	(2.19)	
Exclusive breastfeeding										
% women thinking a baby should be breastfed exclusively for six months	3118	42.1	30.62***	38.65***	0.01	2807	41.9	37.20***	42.30***	0.06
			(3.60)	(3.33)				(3.69)	(3.57)	
% women thinking it is never ok to give a baby under six months water						2806	30.5	38.95***	50.57***	0.00
								(3.58)	(3.31)	
% women thinking it is ok to give a baby under six months water if it is hot outside	3100	65.3	-35.66***	-42.50***	0.03	2804	59.6	-38.23***	-46.24***	0.00
			(3.85)	(3.59)				(3.61)	(3.59)	

Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD for continuous indicators only.
3. Effect = the adjusted difference in means between non-CDGP villages and low-intensity CDGP villages, and between non-CDGP villages and high-intensity CDGP villages, respectively.
4. LI-HI diff. = p-value of the difference between the effect in low- and high-intensity villages.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'LI-HI diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Table 49: Husbands' knowledge and attitudes on pregnancy and breastfeeding, low- vs high-intensity

	Midline					Endline				
		Non-CDGP	Low-int	High-int	LI-HI diff.		Non-CDGP	Low-int	High-int	LI-HI diff.
	N	Mean (SD)	CDGP effect (SE)	CDGP effect (SE)	p-value	N	Mean (SD)	CDGP effect (SE)	CDGP effect (SE)	p-value
Pregnancy and delivery										
% husbands who would advise a pregnant woman to visit a health facility for a check-up if she is healthy and nothing is wrong	1934	89.0	3.84*	5.41***	0.38	1314	93.8	1.75	2.28	0.71
			(2.01)	(1.99)				(1.66)	(1.46)	
% husbands who would advise a pregnant woman to eat more food						1316	68.9	6.85**	-0.50	0.02
								(3.28)	(3.64)	
% husbands who say the best place for a woman to give birth is at a health facility	1938	28.8	10.70***	12.03***	0.71	1316	39.7	18.12***	17.11***	0.79
			(3.79)	(3.61)				(3.87)	(3.88)	
Breastfeeding initiation										
% husbands thinking it is best to start breastfeeding immediately or within 30 minutes of birth	1667	37.5	13.55***	11.77***	0.62	1225	50.5	13.77***	11.56***	0.57
			(3.49)	(3.44)				(4.07)	(4.28)	
% husbands thinking it is best to start breastfeeding within one hour of birth	1667	57.9	12.69***	11.57***	0.69	1225	65.4	12.33***	13.19***	0.81
			(3.11)	(3.20)				(3.68)	(3.76)	
% husbands thinking babies should receive only breastmilk (and medicine) during the first three days						1316	30.5	23.85***	24.98***	0.75
								(3.67)	(3.59)	
% husbands thinking colostrum is good for the baby	1443	58.3	15.12***	13.72***	0.69	1115	62.6	13.34***	9.72**	0.39
			(4.22)	(3.79)				(4.62)	(4.80)	
Exclusive breastfeeding										
	1938	25.8	22.13***	24.77***	0.43	1316	29.4	25.02***	26.27***	0.76

% husbands thinking a baby should be breastfed exclusively for six months			(3.28)	(3.28)				(3.83)	(4.22)	
% husbands thinking it is never ok to give a baby under six months water						1309	22.0	26.64***	27.02***	0.92
								(3.54)	(4.06)	
% husbands thinking it is ok to give a baby under six months water if it is hot outside	1835	76.9	-22.35***	-28.63***	0.07	1295	70.2	-31.16***	-32.63***	0.73
			(3.17)	(3.49)				(3.95)	(4.58)	

Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD for continuous indicators only.
3. Effect = the adjusted difference in means between non-CDGP villages and low-intensity CDGP villages, and between non-CDGP villages and high-intensity CDGP villages, respectively.
4. LI-HI diff. = p-value of the difference between the effect in low- and high-intensity villages.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'LI-HI diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Table 50: Women's anthropometrics, low- vs high-intensity

	Midline					Endline				
		Non-CDGP	Low-int	High-int	LI-HI diff.		Non-CDGP	Low-int	High-int	LI-HI diff.
	N	Mean (SD)	CDGP effect (SE)	CDGP effect (SE)	p-value	N	Mean (SD)	CDGP effect (SE)	CDGP effect (SE)	p-value
Weight	1431	49.8	-0.24	-0.52*	0.32	1441	50.9	-0.20	-0.61**	0.22
		(7.3)	(0.31)	(0.27)			(8.4)	(0.36)	(0.31)	
Height	1431	157.2	-0.03	-0.06	0.83	1439	157.2	0.16	0.08	0.60
		(5.6)	(0.12)	(0.11)			(5.5)	(0.14)	(0.12)	
BMI	1431	20.1	-0.09	-0.18*	0.38	1438	20.6	-0.09	-0.25**	0.19
		(2.6)	(0.13)	(0.11)			(3.0)	(0.14)	(0.12)	
% who are classed as thin (BMI<18)	1431	27.9	1.08	3.03	0.52	1439	22.4	1.95	6.66***	0.08
			(2.79)	(2.94)				(2.62)	(2.56)	
% who are classed as normal (18<BMI<25)	1431	66.5	-1.27	-3.18	0.59	1439	69.7	-2.10	-6.70**	0.14
			(3.23)	(3.41)				(2.95)	(2.92)	
% who are classed as overweight (BMI>25)	1431	5.6	0.19	0.53	0.84	1439	7.9	0.25	0.40	0.93
			(1.63)	(1.42)				(1.61)	(1.59)	
MUAC	1399	252.9	-1.13	-0.85	0.81	1409	256.8	1.28	-0.29	0.24
		(25.0)	(1.16)	(1.14)			(25.8)	(1.50)	(1.38)	

% who are classed as malnourished	1399	7.1	1.83	2.02	0.90	1409	6.7	-1.09	2.65*	0.01
Def.1: MUAC < 220			(1.52)	(1.46)				(1.48)	(1.40)	
% who are classed as malnourished	1399	17.6	2.43	1.41	0.67	1409	14.4	-2.07	3.11	0.01
Def.1: MUAC < 230			(2.16)	(2.38)				(1.87)	(2.20)	

Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD for continuous indicators only.
3. Effect = the adjusted difference in means between non-CDGP villages and low-intensity CDGP villages, and between non-CDGP villages and high-intensity CDGP villages, respectively.
4. LI-HI diff. = p-value of the difference between the effect in low- and high-intensity villages.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'LI-HI diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Table 51: Anthropometrics for midline children (born after the baseline, before the midline), low- vs high-intensity

	Midline					Endline				
		Non-CDGP	Low-int	High-int	LI-HI diff.		Non-CDGP	Low-int	High-int	LI-HI diff.
	N	Mean (SD)	CDGP effect (SE)	CDGP effect (SE)	p-value	N	Mean (SD)	CDGP effect (SE)	CDGP effect (SE)	p-value
Age (months)	2718	19.5	-0.71**	-1.05***	0.29	2209	42.0	-0.67*	-0.75**	0.80
		(6.6)	(0.32)	(0.33)			(6.4)	(0.35)	(0.36)	
Height (cm)	2669	74.2	0.11	-0.37	0.13	2159	89.4	0.49	-0.09	0.11
		(6.8)	(0.31)	(0.33)			(5.8)	(0.33)	(0.33)	
Weight (cm)	2669	8.8	-0.05	-0.18**	0.12	2159	12.6	0.07	-0.05	0.25
		(1.8)	(0.08)	(0.09)			(1.8)	(0.10)	(0.10)	
BMI-for-age Z-score	2669	-0.2	-0.13**	-0.18***	0.40	2159	0.2	-0.07	-0.04	0.58
		(1.1)	(0.06)	(0.06)			(1.0)	(0.06)	(0.06)	
Height-for-age (HAZ)	2669	-2.5	0.23***	0.20***	0.74	2159	-2.5	0.20***	0.06	0.08
		(1.3)	(0.08)	(0.07)			(1.1)	(0.06)	(0.07)	
% who are classed as stunted (HAZ < -2)	2669	66.2	-5.94**	-5.74**	0.94	2159	66.8	-8.71***	-2.02	0.04
			(2.73)	(2.68)				(2.98)	(2.85)	
% who are classed as severely stunted (HAZ < -3)	2669	34.8	-7.51***	-3.27	0.06	2159	29.8	-7.94***	-1.57	0.02
			(2.44)	(2.33)				(2.37)	(2.51)	
Weight-for-age (WAZ)	2669	-1.7	0.07	0.02	0.43	2159	-1.5	0.10*	0.02	0.18
		(1.2)	(0.07)	(0.06)			(1.0)	(0.06)	(0.06)	

% who are classed as underweight (WAZ < -2)	2669	40.1	-1.66	-0.12	0.54	2159	30.2	-5.70**	-0.17	0.03
			(2.62)	(2.37)				(2.49)	(2.56)	
% who are classed as severely underweight (WAZ < -3)	2669	14.5	-0.05	0.27	0.86	2159	6.7	-0.91	0.24	0.43
			(1.67)	(1.80)				(1.24)	(1.36)	
Height-for-weight (WHZ)	2669	-0.6	-0.09	-0.14**	0.40	2159	-0.1	-0.05	-0.04	0.85
		(1.1)	(0.06)	(0.06)			(1.0)	(0.06)	(0.06)	
% wasted (WHZ < -2)	2669	11.2	1.87	3.98**	0.25	2159	3.4	-0.89	-0.46	0.61
			(1.38)	(1.71)				(0.84)	(0.85)	
% who are classed as severely wasted (WHZ < -3)	2669	2.9	-0.59	0.52	0.15	2159	0.4	0.28	0.33	0.90
			(0.79)	(0.90)				(0.39)	(0.41)	
MUAC	2718	140.1	3.08	4.21	0.79	2175	154.9	0.31	-1.71	0.33
		(66.8)	(3.33)	(3.83)			(56.4)	(2.58)	(2.48)	
% who are classed as malnourished (MUAC < 125)	2694	17.6	0.98	1.33	0.86	2169	1.7	-0.90	-0.61	0.65
			(1.87)	(1.95)				(0.70)	(0.69)	
% who are classed as severely malnourished (MUAC < 115)	2694	6.2	-0.51	0.28	0.48	2169	0.6	-0.38	-0.39	0.96
			(1.20)	(1.14)				(0.34)	(0.36)	

Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD for continuous indicators only.
3. Effect = the adjusted difference in means between non-CDGP villages and low-intensity CDGP villages, and between non-CDGP villages and high-intensity CDGP villages, respectively.
4. LI-HI diff. = p-value of the difference between the effect in low- and high-intensity villages.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'LI-HI diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).

Table 52: Anthropometrics for endline children (born after the midline, before the endline), low- vs high-intensity

	Endline				
		Non- CDGP	Low-int	High-int	LI-HI diff.
	N	Mean (SD)	CDGP effect (SE)	CDGP effect (SE)	p-value
Age (months)	1885	12.3	0.22	-0.04	0.48
		(6.0)	(0.35)	(0.36)	
Height (cm)	1854	68.9	0.55	0.13	0.26
		(7.0)	(0.37)	(0.37)	
Weight (cm)	1854	7.4	0.19**	0.10	0.29
		(1.7)	(0.09)	(0.09)	
BMI-for-age Z-score	1854	-0.7	0.06	0.08	0.77
		(1.3)	(0.07)	(0.07)	
Height-for-age (HAZ)	1854	-1.8	0.02	0.05	0.78
		(1.6)	(0.10)	(0.11)	
% who are classed as stunted (HAZ < -2)	1854	45.8	2.78	0.78	0.53
			(3.06)	(2.87)	
% who are classed as severely stunted (HAZ < -3)	1854	21.3	-0.86	-0.37	0.85
			(2.34)	(2.40)	
Weight-for-age (WAZ)	1854	-1.6	0.06	0.09	0.70
		(1.4)	(0.08)	(0.09)	
% who are classed as underweight (WAZ < -2)	1854	39.4	-1.54	-2.89	0.64
			(2.82)	(3.08)	
% who are classed as severely underweight (WAZ < -3)	1854	16.0	-3.44*	-1.36	0.32
			(2.07)	(2.23)	
Height-for-weight (WHZ)	1854	-0.9	0.06	0.10	0.57
		(1.3)	(0.07)	(0.07)	
% wasted (WHZ < -2)	1854	19.6	-1.50	-2.10	0.76
			(2.02)	(2.10)	
% who are classed as severely wasted (WHZ < -3)	1854	4.3	1.14	1.50	0.79
			(1.19)	(1.29)	

MUAC	1883	133.2	2.84**	1.10	0.22
		(13.7)	(1.39)	(0.84)	
% who are classed as malnourished (MUAC < 125)	1882	21.9	-5.00**	-1.35	0.09
			(2.39)	(2.43)	
% who are classed as severely malnourished (MUAC < 115)	1882	7.6	-0.59	0.32	0.50
			(1.41)	(1.50)	

Source: CDGP baseline, midline, and endline survey data. Notes:

1. The sample is women who were pregnant at the time of the baseline survey in 2014. We interviewed these pregnant women and their husbands, and also asked questions about their children. At midline and endline, we interviewed the same people.
2. Mean = unweighted estimate of the mean in the control group. SD for continuous indicators only.
3. Effect = the adjusted difference in means between non-CDGP villages and low-intensity CDGP villages, and between non-CDGP villages and high-intensity CDGP villages, respectively.
4. LI-HI diff. = p-value of the difference between the effect in low- and high-intensity villages.
5. Means, effects, and differences are measured in percentage points for binary and categorical indicators. For continuous indicators, they are measured in the relevant unit of measurement.
6. Both the 'Effect' and the 'LI-HI diff.' are estimated by OLS regression with LGA and tranche fixed effects, adjusted for baseline characteristics of the household and of the woman (see Section 5.9 of Volume II of this report). SEs are clustered at the village level. Significance levels: * (10%), ** (5%), *** (1%).