KAZAKHSTAN: EXTERNAL EVALUATION OF BOTA PROGRAMMES

The Impact of BOTA's Conditional Cash Transfer (CCT) Programme

Lead authors: Clare O'Brien, Marta Marzi, Luca Pellerano and Aly Visram

Final report

November 2013

Preface

This report identifies the impact of the BOTA Foundation's Conditional Cash Transfer (CCT) on its target beneficiaries—primarily on households with children of pre-school age—after they have been receiving the transfer for up to a year. It also evaluates the latest experience of beneficiaries and non-beneficiaries with the programme's operations.

The findings are drawn from the second (final) round of a quantitative survey of households eligible to receive the benefit. The fieldwork on which these quantitative findings are based was conducted in June to November 2012. The first round of the survey, for which fieldwork took place in 2011 and the report was published in 2012, presented a baseline of the living conditions of eligible households before they started receiving the transfer.

The three-volume baseline report, together with the results of two rounds of qualitative research on the CCT, are also publicly available and can be accessed on Oxford Policy Management's (OPM's) website at www.opml.co.uk.

Acknowledgements

This assessment is based on quantitative fieldwork conducted by OPM and BISAM Central Asia. The team is very grateful to the time taken by all respondents to answer questions, and to all those in the field who facilitated the research including *akims* at all levels of local government administration, and BOTA's local partners and volunteers.

Thanks are due to numerous members of staff at the BOTA Foundation, but particularly Joseph Rittmann, Sergey Sultanov and Elena Vinogradova of the CCT department; Farkhod Saidulloev and Altynai Kussainova of the Monitoring and Evaluation Department; and current and former executive directors Aaron Bornstein and Chris Cavanaugh who gave detailed comments on the methodology and questionnaires that underlie this report, and provided extensive and timely information about the running of the programme.

The research team

This assignment has been carried out by OPM, the lead partner, in consortium with the Institute for Fiscal Studies, UK, and BISAM Central Asia, Kazakhstan.

The OPM team for this quantitative survey of the CCT is Clare O'Brien, Marta Marzi, Fred Merttens, Luca Pellerano, Stephi Springham and Aly Visram. Orazio Attanasio of the Institute for Fiscal Studies provided valuable guidance in the survey design and peer review process. BISAM Central Asia carried out the data collection, processing and cleaning; their lead staff members on the assignment are Tatiana Otenko, Polina Lubetskaya, Gulmira Bolatbaeva, Aigul Kabinova and Ardak Zimanovskaya.

For further information please contact the Clare O'Brien of OPM (clare.obrien@opml.co.uk), the project manager, or Altynai Kussainova, Director of the Monitoring and Evaluation Department at BOTA (akussainova@bota.kz).

Executive summary

Background to the Conditional Cash Transfer (CCT) programme

The BOTA Foundation set up the CCT programme to improve the lives of children in Kazakhstan by offering a regular monthly income to poor households to increase access to education and other social sector services. To be eligible, the household must live in an area supported by the CCT, and must contain a member that matches one of the four defined categories of beneficiary: (i) children aged 4+ until they must start school; (ii) women who are pregnant or have an infant under six months; (iii) children with disabilities; and (iv) school-leavers aged 16-19 who are starting work. It must also be poor according to a short computer test that compares its characteristics with households from the national household survey. Once enrolled, recipients get the cash for the time permitted, provided they meet conditions such as attendance at pre-school or at training.

At the baseline in 2011 the CCT was operating in three oblasts, or provinces: Akmola, Kyzylorda and Almaty. In 2012 it expanded to three more. In Akmola and Kyzylorda it is run by BOTA staff; in the others it is run by partner non-governmental organisations (NGOs). A team of regional specialists oversees enrolment, while volunteers in each village support both enrolment and day-to-day implementation such as checking that beneficiaries are meeting the programme conditions, and providing training. The transfer is paid into a bank account opened for each recipient household. The household can then withdraw the cash using an electronic card.

The scope of the evaluation

OPM's evaluation has generated independent evidence on three main questions:

1. **Programme impact.** What has been the impact of the CCT on the households it intended to reach in the areas where it is working? This includes changes to households' consumption patterns, home environment, knowledge or behaviour.
2. **Operational effectiveness.** How effective are BOTA's operations for running the CCT?
3. **Targeting effectiveness.** To what extent has BOTA reached the households it intended to support? Are the households that pass the proxy means test and enrol onto the CCT mostly poor? Do eligible households enrol onto the programme, and if not, why not?

A series of evaluation reports responds to these questions, drawing on quantitative and qualitative research conducted over more than two years. The present study sets out the quantitative findings on programme impact, and the most recent round of results on operational effectiveness. Results on the remaining questions are presented in other reports (see Figure 2.2 in the main text for the full list).

We conducted the quantitative impact evaluation **in Almaty oblast only, and focusing on the benefit for children of pre-school age—the Early Childhood Development (ECD) category**. The geographical constraint was because the CCT had already been running for over a year in Akmola and Kyzylorda oblasts so we could not ascertain the situation of the households before the arrival of BOTA. The categorical focus was because ECD households make up the largest share of CCT recipients, and because we could use publicly available information to obtain a statistically representative sample of this group. Where possible the survey gathered information on the other categories—pregnant and lactating women, and children with disabilities—if such people were found in ECD-eligible households. The findings on these categories are not statistically representative of Almaty oblast but they nonetheless provide useful insights. Questions on school-leavers were not included as this was not yet a target category when the survey was designed.

The evaluation design

What the impact evaluation is looking for

An underlying 'theory of change' explains why handing out cash should lead to increased access to social sector services. The implicit theory of change of the CCT for ECD beneficiaries is that, by giving poor households money, they are better able to afford education, and they use that money to enrol their child in pre-school. Also, the relative value of sending the child to pre-school changes because of the need to comply with the programme conditionality to get the cash. But the impact may be different if, for example, people had other reasons not to use the services, or if facilities raised their prices, leaving families no better off. The impact evaluation measures both the final outcome of the CCT and the impact at all the steps along the way so that we can ascertain whether the theory of change holds true and, if not, what has caused the result to be different.

How we detect the impact: the randomised control trial

We quantified impact by comparing living conditions in two groups of communities: one that received BOTA's CCT in 2011-12 (the 'treatment' group), and one that did not (the 'control'). We made sure that the groups were as similar as possible at the outset by pairing up all communities (*okrugs*, or groups of villages headed by a mayor or *akim*) in Almaty oblast where BOTA might eventually operate, according to their similarity in terms of population size and their distance to the district (*rayon*) centre. One okrug in each pair was randomly assigned to the treatment group and the other to the control group. This is termed a cluster randomised control trial. We randomly selected 60 of these pairs for the evaluation; and since some were randomly selected twice, we ended up with 54 unique pairs, or 108 okrugs in total, for the survey, of which six had a double-size sample. Any differences between these groups at follow-up may be attributed to BOTA.

Randomisation by okrug was feasible because BOTA moves from one community to another to conduct enrolment: it cannot reach all communities at once. So the randomisation simply defined the order of enrolment, by delaying enrolment of the control okrugs until after the enrolment of all the treatment okrugs and of as many of the non-evaluation okrugs as BOTA chose to enter.

The 'intent to treat' approach

There are two options for comparing households in treatment and control okrugs:

1. **The 'intent-to-treat' (ITT) approach.** This compares the group of people that BOTA *intended to reach*, i.e. all the eligible households in treatment areas, with the equivalent in control areas.
2. **The 'average treatment effect on the treated' (ATT) approach**. By use of econometric techniques this determines the effect on *actual beneficiaries* in treatment areas, accounting for the fact that this is diluted when we look at all eligible households.

The two do not give the same result because BOTA does not reach all its target households; and the characteristics of those that become beneficiaries differ from those that are also eligible but that do not join. This is also the reason why we have not used BOTA's beneficiary lists to select respondents for interview in treatment areas: there is no equivalent list in control areas (because there are no beneficiaries), and we cannot compare *actual beneficiaries* in treatment areas and *intended beneficiaries* in control areas.

By agreement with BOTA we have used the ITT approach in this evaluation to measure impact, so we are looking at the CCT's impact on the households that it intended to reach. We consider this more useful from a policy point of view because it takes into account how well the programme

reaches its target population. But it is useful for BOTA also to know its effect on the households it actually reached. We have therefore used econometric techniques to estimate the size of the ATT impact, i.e. the effect on the actual beneficiaries. We have recorded this in the tables where it is significant.

Selection of respondents

The survey team first identified households eligible for the ECD transfer (the 'listing' stage) by getting lists of children, with addresses and dates of birth, from the local government and then administering BOTA's poverty test, the proxy means test, to a random subsample to find out which ones were classified as poor. The households of 6,899 children were tested. Since 78% passed, there were 5,388 households that met BOTA's criteria and could be used for the full interview.

For the baseline, 10 households in each okrug were randomly selected for interview. A few okrugs did not have 10 eligible; but the total of 1,173 completed interviews was very close to the planned 1,200. The follow-up survey took place one year later which reduces the impact of seasonal changes in consumption or behaviour. The one-year interval was selected because most households would not still be enrolled after two years. At follow-up the survey was twice as large, to maximise the possibility of detecting an impact. Some 2,289 households were successfully interviewed, including nearly 1,000 from the baseline. Interviewing households twice means part of our follow-up survey has a longitudinal dimension, a 'panel', whereby individual children can be tracked over time. We also interviewed 351 pre-schools.

Our final interviewed sample of 2,289 households is split quite evenly between treatment areas (1,170) and control areas (1,119), and between boys and girls. Nearly all were aged 5 or 6 in the follow-up survey. This group was eligible for the CCT for the full year between survey rounds. Among the households, 79 (3%) had a child with a disability and 388 (17%) had a pregnant or lactating woman. The findings on these latter two categories are unweighted.

How to interpret the analysis

Results are shown separately for treatment and control areas; in treatment areas they are further disaggregated according to whether the respondent is a beneficiary of BOTA. To see the 'ITT', the impact on BOTA's *target* population, simply compare the 'All treatment' and 'Control' columns. We mentioned earlier that we used econometric techniques to estimate the impact on *actual* beneficiaries (the 'ATT') because we could not measure it directly as there is no comparable control. The column, 'Estimated effect on beneficiaries', shows any significant impact or is blank if there is none. The column 'N' cites the unweighted number of observations in the sample.

Statistically significant differences between treatment and control locations, or between beneficiaries and non-beneficiaries in treatment areas, are marked in the tables with a series of asterisks: (*) = Significant at the 10% level; (**) = Significant at the 5% level; and (***) = Significant at the 1% level. This means that, the more asterisks are shown, the more likely it is that the observed difference is due to real differences between the groups, rather than being due to chance because of who was interviewed. For example, if an indicator has three asterisks (***) there is a 99% chance that this is a genuine difference between the two types of households. Where results are not asterisked it does not mean that there is no difference between the groups, but rather that the difference cannot be asserted with such a high degree of confidence (90% certainty or more).

Findings on the ECD and home environment

Characteristics of the household

The composition of the average household eligible for the CCT has not changed significantly since the baseline: a typical eligible household has six members, three children and three adults. The fact that the CCT is not shown to have influenced household composition is important because cash transfers elsewhere are sometimes found to have incentivised households to change their structure. Household composition can change as a result of birth and death, marriage and divorce, adoption or migration. In the short one-year interval between the baseline and follow-up CCT surveys it is likely that, if any effect were to have been found, it would only have been in relation to migration or to pregnancy rather than other reasons. But BOTA did not have an effect on either.

Nearly nine in every 10 children continue to live with both parents. But some children are changing their family arrangement: about 3% of those selected for interview could not be reached because, while the household was in the same okrug, the children themselves had moved. This corroborates the suggestion that children in Kazakhstan may live in rural areas with one set of family members when younger, and may move away—possibly with or to their parents—as they near school age.

In treatment areas beneficiary households are very significantly different to those that are also eligible but do not take up the benefit. Many differences have become more pronounced during the last year. Households that become beneficiaries have, on average, more children—including of pre-school age—and fewer working-age adults and pensioners. We also see a reduced likelihood of take-up of the CCT by heads of households who are female, elderly or highly educated, by households with a smaller dependency ratio and by Russian speakers. These households are either not being targeted for inclusion in the programme or are less likely to choose to apply.

Child care and the home environment

The main carer of the pre-school-age child—who makes sure that the child is fed, bathed and taken care of when ill—is almost always female. In treatment areas the carer is now less likely to be in their 50s, and more likely to be younger. This suggests that parents rely less on older household members for the care of young children. It does not mean that the person designated as the main carer has taken on more caring duties than before the CCT. For example, if a child previously stayed at home with a grandparent while the parents worked, but is now in pre-school to meet the BOTA conditions, the CCT may have relieved the grandparent of caring duties without increasing the burden on the parent, shifting the perception of the main carer from one to the other.

When we look at who else takes a substantial role in looking after the child, having spent more than four hours in a row with them during the previous week, we see that grandparents continue to play a role in children's upbringing. The CCT has led to few significant changes in these secondary arrangements other than a small but significant decline in aunts and uncles looking after the child. Overall, very few children (4%) were ever left alone with a child under 10 years old in the previous day. Despite how uncommon this is, the rate was significantly lower in treatment than control households, suggesting that the CCT has reduced the need to resort to inadequate care.

At home nearly all children have shop-bought toys and a television, but only 61% have at least three books for children of their age and there is no significant improvement in treatment areas. Most children (97%) had participated in at least four learning activities (such as reading, writing, story-telling etc.) at home in the previous week. The activity where CCT has had the greatest impact is reading: 83% of children in treatment areas, compared with 74% in control areas, had read or looked at books in the previous week.

Pre-school enrolment and attendance

One of BOTA's main objectives for ECD children is to increase enrolment and attendance at pre-school, which is a condition of receiving the transfer. The CCT has had a considerable influence on the use of pre-schools and their supply. As our sampled children are now a year older we naturally see an increase in the rate of children ever enrolled at pre-school in both treatment and control areas, from fewer than half (44%) at baseline in 2011 to more than three-quarters (78%) at follow-up in 2012. But BOTA has had a highly significant impact on the size of the change. In treatment areas some 84% of children have now attended a pre-school, compared with 70% in control areas. The rate of dropout in our sampled age group is very low in all locations regardless of BOTA.

The CCT has led to a new type of informal pre-school. In locations where facilities did not exist or had no available places, communities have set up their own, often using spare rooms in buildings such as schools, to meet the CCT conditionality. BOTA reports that many are becoming formal mini-centres, though at the time of the survey a lot of them retained their informal status. The three general types of pre-school for five- and six-year-olds—kindergartens, zero classes and mini-centres—remain widely available. There has been a surge in the numbers joining mini-centres as well as informal facilities: the proportion of children in BOTA's target group who have ever been to a mini-centre is now double in treatment areas compared with control areas (27% vs. 14%). The rate of entry of BOTA's target group into kindergartens and zero classes has been much less affected by the introduction of the CCT. The small drop in the share of the overall population eligible for the CCT who have ever been to a kindergarten (13% vs. 16%) is not statistically significant.

We unexpectedly find that some 15% of sampled children in treatment areas and 9% in control areas are already in Class 1 or 2 of school, although they are not yet obliged to be. BOTA has had a significant impact in this respect. For BOTA beneficiaries we estimate that attendance of the surveyed children at primary school is some 10 percentage points higher than it would have been without the CCT. This suggests that the consequence of the CCT's encouragement of pre-school education is not so much that children are spending longer in pre-school but rather that they are moving up to school sooner. Only a longer term study of this cohort will be able to show the impact of this early school start on their eventual outcomes in education. Most children (over 90%) in all areas attend pre-school for five days a week; but in treatment areas there is a slightly higher likelihood that children—particularly five-year-olds, rather than six-year-olds—attend for perhaps just one or two days a week because, unlike kindergartens and zero classes, the 'BOTA facilities' are usually open for only a few days and a few hours per week instead of the full five days.

This change in the pre-school experience has not led to major shifts in perception of the quality of any aspect of the facility such as the teaching, buildings or management.

Conditions at pre-school

The average size of enrolment in kindergartens, zero classes and mini-centres has not changed as a result of BOTA. Their size is largely fixed by regulation. If enrolment among the CCT target population has increased, but average pre-school sizes have not, this poses the question: how have the extra children been fitted in? Two possible ways have been identified above: first, the creation of new (particularly informal) facilities; and second, the displacement of children into Class 1 of school. A third hypothesis, which we cannot confirm quantitatively because their households did not form part of the interview, is the exclusion of the better-off children who are not eligible for BOTA. This seems credible because being in receipt of a benefit is now the most commonly cited reason for selecting a child for enrolment among pre-schools interviewed in CCT areas after that of the child living locally, whereas it does not feature at all in control areas.

These three routes to accommodating extra demand have contrasting effects on waiting lists. The creation of new facilities for CCT beneficiaries should have no effect on waiting lists, or might even reduce them if non-CCT beneficiaries can also attend (this is not the case with 'BOTA facilities' but should be the case with any new mini-centres); the transfer of children to primary school might also reduce waiting lists. Any exclusion of children who might otherwise attend would add to waiting lists. It seems that mini-centres are now more likely to have a waiting list as a result of BOTA, while other facility types have not seen much change in this respect.

Opening hours among pre-school types vary enormously, to the extent that the CCT requirement for 85% attendance is rather meaningless, and risks unfairly penalising children attending kindergarten if it is applied as officially stated since they risk losing their benefit even when attending for 30 hours a week. All kindergartens operate for at least eight hours a day while most BOTA facilities are open for no more than two.

Zero classes and some mini-centres are free. For other facilities the monthly fee reflects the pre-school's opening hours and range of amenities. The average BOTA facility costs less than KZT 1,000 while the average interviewed kindergarten costs about KZT 7,500 a month. The CCT has not caused facilities to change their prices. Fees are higher at kindergartens because they typically have over 20 staff and a wide range of amenities including hot water and indoor toilets, outdoor play areas, toys and games, a library, musical instruments and sometimes a computer. They provide at least breakfast and lunch, and often other meals or snacks. Zero classes, on the other hand, concentrate on academic preparation for school and are less likely to offer recreational facilities or meals. Mini-centres vary between these two other types. BOTA facilities are the least well endowed with utilities and recreational equipment and have an average of just two staff members, reflecting the fact that they are usually small single groups.

Other direct and indirect impacts

Health and nutrition

Very few households eligible for the CCT declare themselves to suffer from a lack of food. Only 7% reported at least one month in the previous year in which they did not have a full and varied diet, and this proportion has been unaffected by the CCT. Such low levels of food insecurity confirm the observation in the baseline that poverty is not strongly associated with food insecurity in Kazakhstan. Children eligible for the CCT already ate a regular and diverse diet at the time of the baseline, and the CCT has had no impact on either the frequency or diversity of children's meals. They continue to eat an average of three meals and three snacks a day and to have a diverse diet, consuming on average eight out of 12 food groups on the day before the survey.

However, the CCT has had an unanticipated positive effect on some aspects of health care relating to the pre-school-age child, including a small but significant reduction in the rates of some illness, and increased expenditure on health care. The rate of children having suspected pneumonia in the previous month is significantly lower in treatment than in control areas (1% vs. 3%). In contrast, though, the CCT has not resulted in any improvement in the rates of children reported to have diarrhoea. We see, too, a marked increase in the proportion of households reporting that their child has received a vitamin A supplement in the last six months (22% in treatment areas vs. 15% in control areas). Vitamin A deficiency is one the leading causes of preventable blindness in children and is known to compromise immune systems and increases the risk of disease.

How households earn a living

Sources of income

Households earn an income in many ways such as through formal salaried employment, working casually for someone, generating one's own income e.g. by farming, or receiving cash or in-kind transfers. Households often combine several sources. The share of households citing transfers (including the CCT as well as state and other non-state benefits) as one of their top three income sources is now much higher in treatment than control areas (77% vs. 67%). But when we look at the proportion reporting transfers as their single most important income source, rather than one of their top three, there is almost no difference. This suggests that the BOTA transfer is a useful supplement to the main income, but has not become predominant. By offering households an income stream that is additional to earnings they were already receiving through other activities, the CCT helps households to *diversify* their income, which is useful for managing risk. In treatment areas only one in every eight households is now reliant on a single source of income, compared with one in five in control areas. Moreover, the majority of BOTA beneficiary households who reported only one source of income at baseline, now report three or more, indicating that not only is the transfer an important source of income, but that beneficiary households have also engaged in some further income diversification activities as a result.

Employment of adults

In all areas just over half of all adults (older than 15)—53%—are economically inactive, neither working nor seeking work. Most of these are housewives or pensioners, while about 18% are still in education, and 4% have a disability. The fact that these proportions are similar in both areas means that the CCT has not encouraged previously economically inactive people to look for a job. This is in line with what was expected, as the CCT was not designed to affect the work choices of all household members including teenagers and pensioners. But the CCT seems to have led to a small but significant increase in the proportion of the child's main carers who are in paid employment outside the household (28% in treatment areas vs. 21% in control areas). Moreover, carers who work are likely to be engaged in economic activities for roughly three hours per week more as a result of the BOTA programme. There is a reduction in the small proportion of main carers who are engaged in self-employment, and a small but statistically insignificant drop in those who say they are economically inactive. Despite this, most carers (67%) remain economically active, as they are often still looking after other young children at home.

Institutional and informal transfers

In treatment areas the proportion of BOTA eligible households that say they received a transfer from a non-government source during the previous year has risen to 55%, compared with only 1% in control areas. The share of households in treatment areas that receive money from an NGO is not 100% for two reasons. First, not all eligible households have enrolled onto the CCT. Second, among those who have enrolled, not all have received money from BOTA.

About two-thirds of BOTA eligible households (68%) receive some kind of state transfer such as a pension, child benefit or disability benefit. The CCT has had no significant impact on this rate: it has neither made households ineligible for state benefits nor encouraged them to apply for additional ones. Friends and relatives have not reduced the amount of financial and non-financial support they give as a result of BOTA. Kazakhstan does not in any case have a strong culture of informal transfers as other countries in the region do. About 19% of eligible households have received support from their acquaintances in the last year, while 6% have given support to others.

Consumption and savings

Since the CCT provides money we would predict that households in treatment areas will consume more than those in control areas. Contrary to expectations, though, the impact evaluation finds no significant effect on consumption. This may be because the value of the transfer is too small to be discernible in comparison with the overall consumption. Total household consumption in both treatment and control areas is around KZT 93,000–94,000 a month (around $625). With a transfer value of KZT 3,600 per month for ECD beneficiaries in 2012, BOTA's contribution to the average household consumption for each beneficiary in the household is less than 4% of the total. The proportion that is devoted to food is quite high in both treatment and control areas, at around 57%. This is because the sample contains only households who are below the threshold for the proxy means test and therefore poorer. The requirement for beneficiary households to send their pre-school-age children to a pre-school facility might be expected to lead to higher expenditure on education in treatment areas than in control areas. But we do not find evidence of this. One reason may be that many of the sampled children, now aged five or six, attend zero class which is free. The overall patterns of expenditure are the same for treatment and control areas which means that households who receive the CCT are not substantially changing the mix of items that they buy.

The CCT has not affected the proportion of households that are poor (64% of sampled households), nor closed the poverty gap, the amount by which poor households fall below the subsistence minimum. This is consistent with the lack of impact on overall consumption.

By opening a bank account for every beneficiary household, BOTA has introduced households to a form of financial service that almost none had previously used. But we do not see significant change in the proportion using formal banking to save money. Indeed, households in treatment areas are only marginally more likely than those in control areas to report having any savings at all (6% vs. 4%, not statistically significant), and among those that do save, those in treatment areas are significantly more likely to keep their money informally with friends or family.

We had expected debt to decline among CCT recipients, as the regularity of the transfer should allow households to smooth their income throughout the year. Contrary to expectations, though, the opposite has occurred. Households in treatment areas are significantly more likely to have debt, and more of it. In the impact evaluation we find that 65% of households in treatment areas currently have debt, compared with 59% in control areas. This suggests that creditors may feel reassured about lending to households whom they know to have a reliable income stream. Most indebted households (60%) use debt to fund current consumption (buying food, groceries or clothes, paying for utilities), while fewer than a third (27%) invest loans in a more productive way (buying durables, the set-up a new business or house refurbishment).

Findings on other BOTA beneficiaries

Coverage of antenatal care was already high in Kazakhstan even before the CCT. It would be virtually impossible for BOTA to improve on the 99% rate of attendance at antenatal care among pregnant women. The CCT had no effect on either the date at which women first attended an antenatal appointment—in the 11th week of pregnancy, on average—nor the number of appointments attended. However, there is a significant improvement in the proportion of women having recently given birth who report having taken iron supplements during pregnancy, at 78% of women in treatment areas compared to 69% in control areas. As BOTA's training programme for pregnant and lactating women place a strong emphasis on good practice to prevent anaemia, this can clearly be seen as an effect of the CCT. We administered BOTA's knowledge test on good practice among pregnant and lactating women and found that those in treatment areas know much more about the types of iron rich foods and myths about the benefits of tea and coffee for iron-

deficient anaemia than women in control households, but in other areas of questioning they did not show any significant improvement.

We also administered BOTA's knowledge test on home-based care for children with disabilities to the 79 interviewed households for whom it was relevant. We found that understanding of appropriate behaviour towards children with disabilities was vary variable and was not noticeably better among those in treatment areas than those in control areas.

BOTA's operations

Enrolment onto the CCT

About 90% of eligible households in treatment okrugs are aware of the CCT. This improvement from the previous year shows that awareness is spreading through word of mouth in communities. Just under 60% report ever having applied. Reasons for non-take-up of the benefit by informed households are discussed in the separate targeting analysis report and remain relevant. The experience of the enrolment process, in terms of time and expense incurred by applicants, and the ease of providing documentation, remains broadly the same in 2012 as in 2011 and is generally positive. BOTA has maintained a reasonably efficient application process while expanding the programme but the benefits of the telephone enrolment process were not yet visible.

Experiences with day-to-day implementation

Contact between volunteers and beneficiary households is reasonably high, with 79% saying they have been in touch in the last year. This is not 100% because ECD households are not obliged to attend volunteer-led training sessions, unlike other categories of recipient. Over 90% of recipients indicated that it would be easy to get in contact with the volunteer if they needed to. Nearly half of respondents in the sample had attended training sessions, mostly the optional classes on good parenting but also sometimes the compulsory training for pregnant women or for home-based care of children with disabilities, if they also received benefits under those categories. In general they reported being satisfied with the training provided.

Nearly all households said they knew how much money they expected to receive, and over 80% had received training in how to use the bank card. Most said that they would incur transport costs to reach the cash machine where they could withdraw the transfer; at a reported average of more than KZT 900 per trip this is quite a substantial proportion of the value of the CCT.

Households were confused about the concept of being required to meet conditions to receive the transfer. Only two-thirds said they thought there was such a requirement; of those, most were aware of the need to enrol their child in pre-school but considerably fewer mentioned the requirement for 85% attendance. Most thought that they would be expelled from the programme entirely if they did not comply. This lack of clarity is typical of other conditional cash transfer programmes elsewhere.

Some 97% of the pre-schools that were interviewed in treatment areas reported being aware of the CCT, and most had had some interaction with the volunteer. The most common reasons for the interaction were when the volunteer requested enrolment of a particular child in the school, or to fill in the forms monitoring attendance.

Conclusions

The impact of the CCT

Although the CCT has had no discernible impact on poverty, BOTA has nonetheless achieved several improvements in human development indicators and has had some additional unexpected impacts, often positive. The short-term nature of the CCT, and its small size compared with the typical consumption of its target households, limit its ability to have a more substantial material impact on beneficiary households as a whole. The main area where the CCT was expected to have a positive impact but where one could not be detected was for household consumption.

Considering the very small contribution the CCT provides to household budgets it is remarkable that, when we confine ourselves to an examination of its effect on the household members for whom it is immediately intended—the pre-school-age child and his or her carer—we see a number of significant changes in behaviour. These are most notable in relation to pre-school enrolment, where the CCT programme has had a very substantial effect on both demand for, and supply of, pre-school education. This very significant extra demand for pre-school education has largely been met by additional enrolment in mini-centres and in informal 'BOTA facilities' that have been set up in communities for the purpose of enabling households to meet BOTA's conditionality. There have been unintended positive impacts on health care for children. The other person in the household on whom the CCT for ECD beneficiaries has had a noticeable effect is the child's main carer, with a small shift in the perception as to who the main carer is, and a slight increase in the likelihood of them being in paid employment rather than self-employed, if she is economically active.

Implications for future programming

The results suggest that any programme that wishes to have a substantial and immediate impact on the economic condition of this particular target group of households in Kazakhstan may need to consider providing larger sums of money, or for longer periods. At the same time we have found that even small amounts of money, conditional on attendance at pre-school, can be attractive enough to encourage a big change in behaviour among eligible households. The fact that the extra enrolment has fallen largely upon less traditional pre-school facilities may be an indication that regular kindergartens or zero classes are more restrained in their ability to respond rapidly to changing demand. The change in preference for type of pre-school also raises the question as to what will happen to the 'BOTA facilities' that have absorbed much of this additional demand, once the CCT programme draws to a close in its current form in 2014. If they are to be continued it may be worth considering also whether their opening hours should be extended to bring them more into line with other pre-school facility types. The continuation of the demand-side incentives for pre-school education alongside the government's supply-side programme of expansion should work well to improve the quantity of education delivered to the target group; as for the quality of that education, this is not an area in which a cash transfer aimed at households can have a strong influence, so the government's ongoing measures to improve quality, such as through improving the qualifications of teaching staff, will continue to be important.

Contents

List of tables and figures

Abbreviations

ATT	average treatment effect on the treated
CCT	conditional cash transfer
ECD	early childhood development
HBC	home-based care
HBS	Household Budget Survey
ITT	intent-to-treat
MICS	Multiple Indicator Cluster Survey
OPM	Oxford Policy Management
PLW	pregnant and lactating women
UNICEF	United Nations Children's Fund

There is a glossary of terms in Annex B.

Structure of this volume

Part A presents the background to the report. This comprises a short description of the CCT programme being evaluated (section 1) and an overview of the scope of the evaluation and its design (sections 2 and 3). Section 4 explains how to interpret the analysis in this report, including the 'ITT' versus 'ATT' approach and the significance tests.

Part B records the findings on the impact of the CCT on beneficiary children and their home environment. Section 5 summarises the characteristics of the household. Section 6 examines care arrangements for the child and the learning environment at home. Section 7 looks at BOTA's impact on households' use of pre-school facilities.

Part C looks at other wider impacts of the CCT on all the members of beneficiary households including adults. This includes their health (section 9), their sources of income and labour supply (section 10) and consumption (section 11). Section 12 summarises findings on pregnant and lactating women and on households' knowledge of looking after a child with a disability.

Part D assesses the operational effectiveness of the CCT programme.

Part E concludes. It is followed by annexes with further details of items discussed in the main text.

PART A: BACKGROUND

1 What is the Conditional Cash Transfer (CCT) programme?

1.1 The aims of the CCT[1]

The BOTA Foundation's CCT programme was created to try to improve the lives of children in poor households in Kazakhstan by offering a regular monthly income to households. In the short term this was intended to contribute to the reduction of poverty and to increase their immediate access to education and other social sector services; in the longer term this should contribute to the development of human capital through better education and health outcomes. BOTA considers that the latter goal of human capital development was its primary objective, with short-term poverty reduction being an important but secondary goal.

The theory is that the provision of cash increases households' *demand* for services such as pre-school facilities and antenatal care. This is expected to work through two effects: an income effect (households are better off) and a substitution effect (the relative price of certain activities is changed). In other words, the transfer makes it both more affordable and more attractive for households to access those services[2]. BOTA also carries out some informal *supply-side* activities, encouraging local communities to establish pre-schools where there are none, and providing training that beneficiaries must attend in order to receive the cash.

1.2 Who can join

To be eligible to join the CCT programme a household must meet three main requirements. These combine geographical, categorical and poverty criteria.

1. **Geographical criterion.** The household must live in an area where BOTA is operating.
2. **Categorical criteria.** The household must contain a member that matches one of the four categories of beneficiary defined by BOTA:
   - Children aged 4+ until they must start school. This is BOTA's 'early childhood development' (ECD) category.
   - Women who are pregnant or who have an infant younger than six months ('Pregnant and lactating women' category, PLW).
   - Children with disabilities.
   - Young people aged 16-19 who have left school and are starting work.
3. **Poverty criterion.** It must be poor according to the results of a short computer test conducted by BOTA representatives, the 'proxy means test', that analyses how the household's characteristics compare against those of households known to be poor in national surveys.

Households that want to join the CCT have to apply to BOTA, with valid identity documents. This 'application-based' enrolment method contrasts with some cash transfer programmes elsewhere where households may be automatically enrolled, such as at the recommendation of a local authority. Once enrolled, beneficiary households receive the cash for the permitted time provided that they meet specified conditions such as attendance at pre-school or at training sessions.

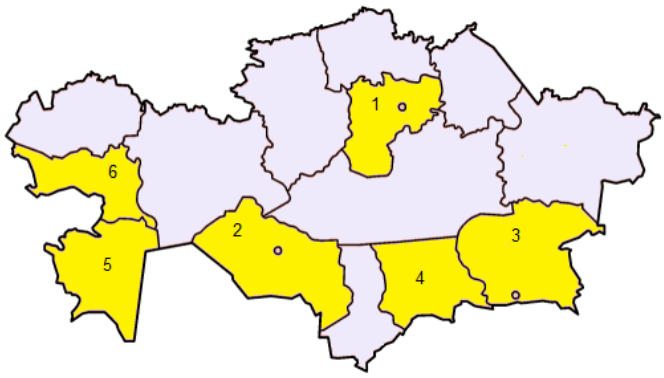
[1] Some further details of the CCT programme are provided in Annex C.

[2] Annex D provides a brief summary of how cash transfers work.

1.3 How the CCT operates

In 2011, when Oxford Policy Management (OPM) started its evaluation of the programme, the CCT was operating in three oblasts, or provinces, of Kazakhstan: Akmola, Kyzylorda and Almaty (Figure 1.1). Subsequently, during 2012, the programme expanded to three further oblasts, namely Zhambyl, Mangystau and Atyrau. In Akmola and Kyzylorda the programme is being run by permanent BOTA staff, based out of a regional office; in the other oblasts the CCT is run by partner non-governmental organisations (NGOs) who have their own offices in the local area.

Figure 1.1 Provinces of Kazakhstan where the CCT operates



1. Akmola (since 2009)
2. Kyzylorda (since 2009)
3. Almaty oblast (since 2011)
4. Zhambyl (since 2012)
5. Mangystau (since 2012)
6. Atyrau (since 2012)

Source: BOTA / OPM.

In all oblasts a team of specialists from the regional office oversees enrolment, while volunteers at the local level support both enrolment and day-to-day implementation. The specialists travel from one community to another throughout their oblast. They register applicants, test their eligibility, and make the relevant administrative arrangements with the successful households to enrol them. The volunteers, meanwhile, each work within a single community. They are local residents who are expected to be familiar with the community and able to identify potentially vulnerable households that include members who fit the CCT categories. They support the specialists by raising local awareness of the CCT and encouraging households to apply. They also act as a focal point during operations, such as by providing training to recipient households or by collecting information about the attendance of beneficiary children at pre-school.

Neither the volunteers nor the specialists handle any cash, because the transfer is disbursed directly to a bank account that is specially opened for each recipient household. The household, which designates a 'recipient' who is usually the mother of the pre-school-age child or child with disabilities, or is the pregnant / lactating woman in the case of the PLW category, has an electronic bank card that it can use to withdraw the money from a cash machine. Transfer values in 2012 ranged between KZT 3,600 ($24) and KZT 5,200 ($35) per beneficiary per month depending on the beneficiary category (see Annex C). Households can receive multiple transfers if they have multiple eligible members.

1.4 Changes to the CCT during the survey

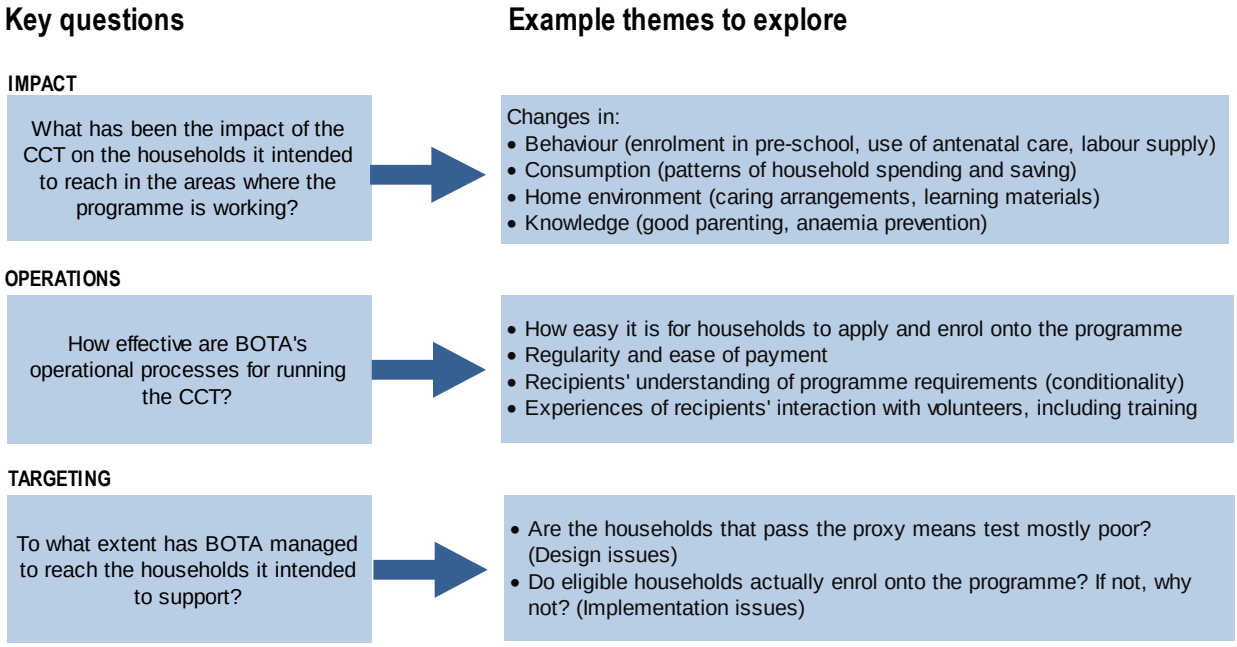
Between the baseline survey in 2011, when OPM measured the living conditions of households before they started receiving the transfer, and the follow-up survey in 2012, when programme beneficiaries had received cash for up to a year, BOTA made some amendments to the CCT programme. These concerned the procedures for entering and leaving the programme and the benefits received by participants:

- In 2012 BOTA began to accept telephone-based applications instead of relying exclusively on the site visits made by specialists. Volunteers, together with the applicant, convey the applicant's answers to the proxy means test by telephone to the specialists at the oblast office. Specialists then enter the results onto a computer and inform the volunteer whether or not the applicant passes the test. This means that applicants no longer have to wait for the enrolment specialists to arrive in the community for the enrolment session before taking the test.
- BOTA has changed the exit criteria for children with disabilities, who now exit after having been enrolled for two years, or sooner if they reach the age of 16 before that date. Previously there was no restriction on the number of years of eligibility provided the child was under 16.
- The value of the benefit has increased each year in line with increases in the minimum subsistence level calculated by the Government of Kazakhstan.
- Households in the ECD category, for children of pre-school age, now have the option of attending training sessions on good parenting skills.

2 The scope of this evaluation

OPM has been running an evaluation to generate independent evidence on three main questions: (i) programme impact (ii) operational effectiveness (iii) targeting effectiveness (Figure 2.1).

Figure 2.1 Key evaluation questions



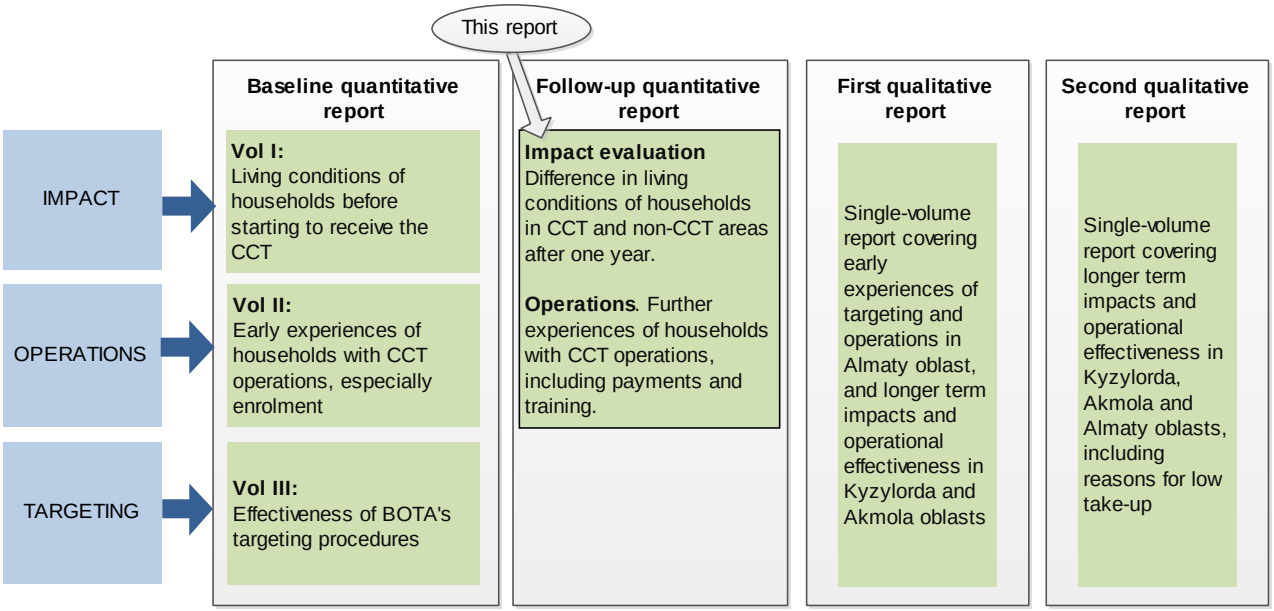
Source: OPM.

These questions have been addressed in a series of evaluation reports that draw on quantitative and qualitative research conducted over more than two years (see Figure 2.2 overleaf).

To identify impact we assess the living conditions of two groups of households, similar in every respect except one: one group receives the CCT and the other does not. The baseline survey for the impact evaluation, the results of which were presented in the baseline report, checked that the two groups were the same and estimated the size of any differences that had appeared by chance. This present report now evaluates the impact of the programme after one year by comparing the living conditions of the two groups. Any differences between them are the impact of the CCT.

We conducted the quantitative impact evaluation in Almaty oblast only. This is because the programme had already been running for over a year in Akmola and Kyzylorda oblasts and so it was no longer possible to ascertain the situation of the households before the arrival of BOTA there. Moreover, in Akmola and Kyzylorda the programme had not been rolled out randomly so it would not have been possible to randomly select locations for comparison ('control' locations) in those oblasts. But we have done qualitative research in Akmola and Kyzylorda oblasts as well as Almaty oblast. Those results have been referred to here where appropriate. Neither quantitative nor qualitative research was undertaken in Zhambyl, Mangystau or Atyrau oblasts because BOTA was not operating there at the time of the baseline.

Figure 2.2 The evaluation reports



Source: OPM. Note: For the three volumes of the baseline report see Oxford Policy Management (2012a, 2012b, 2012c). For the two qualitative reports see MacAuslan and Rogers (2012) and Rogers and MacAuslan (2013).

The quantitative survey focuses on the living conditions of households eligible for the ECD benefit because these make up the largest proportion of CCT recipients (Table 2.2) and because it is possible to use publicly available information to obtain a statistically representative sample of this group.

Table 2.2 Active CCT beneficiaries as of December 2012

	Almaty oblast		Other oblasts		Total	
Category	**No.**	**%**	**No.**	**%**	**No.**	**%**
ECD	11,046	65	18,113	57	29,159	60
Pregnant / lactating women	3,552	21	7,862	25	11,414	23
Home-based care for children with disabilities	1,703	10	2,853	9	4,556	9
Livelihoods (teenage school-leavers)	654	4	2,881	9	3,535	7
Total	**16,955**	**100**	**31,709**	**100**	**48,664**	**100**

Source: BOTA (2012).

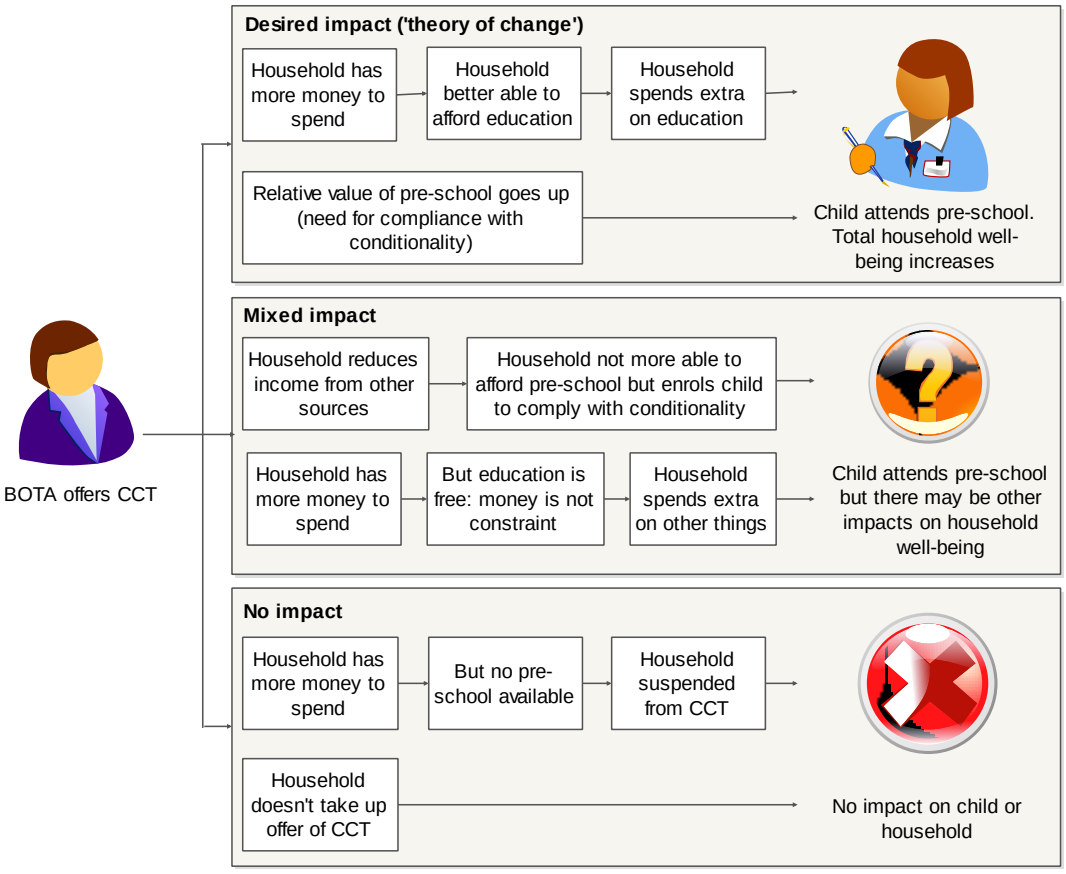
Where possible the survey gathered information on the other categories of interest to BOTA—pregnant and lactating women, and children with disabilities—if such people were found in the same households as the children eligible for the ECD benefit. The findings on these categories are not statistically representative of Almaty oblast but they nonetheless provide useful insights into attitudes and practices on social and health issues for these groups. Questions on teenage school-leavers were not included in the survey because this group was not yet one of BOTA's target categories at the time the survey was designed.

3 Evaluation design

3.1 What the impact evaluation is looking for

Why should the distribution of cash lead to an improvement in enrolment and attendance at pre-school? There is an underlying 'theory of change' that explains the intended link between the means—handing out cash—and the goal—increased access to social sector services. But the consequences may be very different to those intended if, for example, it was not lack of money that prevented people from using the services, or if facilities simply raised their prices, leaving families no better off. Figure 3.1 shows some possible impacts of the CCT. The objective of the impact evaluation is to measure not just the final outcome of the programme but also the impact at all the steps along the way. In this way we can ascertain not only whether the theory of change holds true but also, if it does not, what has caused the result to be different.

Figure 3.1 Examples of possible impacts of the CCT



Source: OPM.

The indicators used to measure impact are derived from many different documents[3]. They cover themes common to all categories of household, such as changes in poverty and the labour supply of adults; and themes specific to the individual categories such as changes in caring arrangements for pre-school children.

[3] These include BOTA's results monitoring framework, OPM's original technical proposal, correspondence between OPM and BOTA during the inception and design phase, and suggestions from BOTA and OPM.

3.2 How we detect the impact: the randomised control trial

We quantified the impact of the CCT by comparing living conditions in two groups of communities: one that received BOTA's CCT during the survey period in 2011-12 (the 'treatment' group), and one that did not receive it (the 'control' group). Any differences between these groups at follow-up may be attributed to BOTA, once any external factors have been taken into account. To decide which were the treatment and which were the control communities, at the start of the evaluation we carefully matched up 226 communities into 113 pairs by comparing factors such as their location, the distance to the rayon centre and the population size. The 'community' used as the basis of the pairing exercise was the *okrug*, the smallest level of local government administration in Kazakhstan which consists of a small group of villages headed by a mayor or *akim*. Then, of each pair, one was randomly assigned to the treatment group and the other to the control group, ensuring that the two groups were as similar as possible. This is termed a cluster randomised control trial.

We do not need to survey every single community, so we randomly selected 60 of the 113 pairs for the evaluation; and since some were randomly selected twice, we ended up with 54 unique pairs, or 108 okrugs in total, for the survey, of which six had a double-size sample. Hence there are 54 treatment okrugs and 54 control okrugs in the sample. All other okrugs (there are 262 in Almaty oblast; some were not included in the pairing exercise because BOTA did not intend to operate there, such as in the cities) were outside the evaluation. BOTA could operate as it chose in the non-evaluation okrugs.

An alternative to randomising by community might have been to randomise by individual. This would have involved assigning people to be beneficiaries or non-beneficiaries randomly. But it was agreed with BOTA that it was preferable to randomise rollout by okrug for both practical and ethical reasons. The design of the CCT programme explicitly precludes that option as BOTA's objective is to maximise inclusion of eligible households. Randomisation by okrug was found to be feasible because in any case BOTA moves from one community to another to conduct enrolment: it cannot reach all communities simultaneously. So the randomisation simply defined at the outset the order of enrolment, by delaying enrolment of the control okrugs until after the enrolment of all the treatment okrugs and of as many of the non-evaluation okrugs as BOTA chose to enter.

3.3 Impact on whom? The 'intent to treat' approach

Households in evaluation okrugs can be identified according to two further dimensions: (i) eligible vs. ineligible; and (ii) for treatment areas, beneficiaries vs. non-beneficiaries (Figure 3.2).

Figure 3.2 Groups of households for the impact evaluation

	Treatment	Control
Eligible	**TE** *1. Beneficiary* / *2. Non-beneficiary*	**CE**
Ineligible	**TI** *1. Beneficiary* / *2. Non-beneficiary*	**CI**

Source: OPM. Note: 'Eligible' refers to eligibility according to the programme criteria, i.e. a household that passes the proxy means test and includes a member with one of the required characteristics.

In a perfectly targeted programme the following would be true:

1. **Eligible households in treatment okrugs** (square TE in the diagram). All households that

pass BOTA's eligibility criteria would be beneficiaries (TE=1) and there would be no-one missed out as a non-beneficiary (TE=2). This means there would be no *exclusion error*.

2. **Ineligible households in treatment okrugs** (square TI). Among people not eligible for the programme, there would be no beneficiaries: all would be non-beneficiaries (TI=2). This means there would be no *inclusion error*.
3. **Households in control okrugs.** Some would be eligible according to the programme criteria, if the CCT were to begin operating there (square CE); others would be ineligible according to programme criteria (square CI). None would be beneficiaries.

In practice programmes inevitably have errors that arise either because of the design of the programme or during implementation. Some households that should not have been enrolled may be enrolled, while others that might have been enrolled are missed[4]. The errors can be due to the way a programme is targeted, or because there are too few resources to enrol everyone, or because households do not wish to join. There are therefore two options for comparing households from treatment okrugs with those from control okrugs:

1. **The 'intent-to-treat' (ITT) approach.** This compares the group of people that BOTA intended to reach, i.e. all the eligible households in treatment areas (TE in the diagram), with an equivalent group in control areas (CE in the diagram).
2. **The 'average treatment effect on the treated' (ATT) approach**. This would compare the actual beneficiaries in treatment areas (groups TE1 and TI1 in the diagram) with a subset of eligible households in control areas who have characteristics similar to those of beneficiaries.

By agreement with BOTA we have used the ITT approach in this evaluation to measure impact. This is because the ATT approach would have required us to conduct an artificial enrolment process in control okrugs to identify an equivalent 'beneficiary' group, but then not give the identified households any cash for a year (a process called 'perfect target mimicking'). In contrast the ITT approach was feasible because eligible households could be identified without going through BOTA's enrolment process. We also consider that the ITT approach is more useful from a policy point of view because it takes into account how well the programme reaches its target population. However, it is useful for BOTA also to know what effect it has had on the households it actually reached. We have therefore used econometric techniques to estimate the size of the ATT impact, i.e. the effect on the actual beneficiaries. We have recorded this in the tables where it is significant (see section 4 below).

3.4 Selection of respondents for interview

3.4.1 Listing

The ITT approach requires that all respondents in both treatment and control areas be eligible for the programme. It was noted above that, to be eligible, households must have a child of the right age for the ECD benefit, and they must have a score in BOTA's proxy means test that identifies them as poor. The survey team therefore had to identify the households in each okrug that met these requirements. This is called the listing stage and it involved two steps:

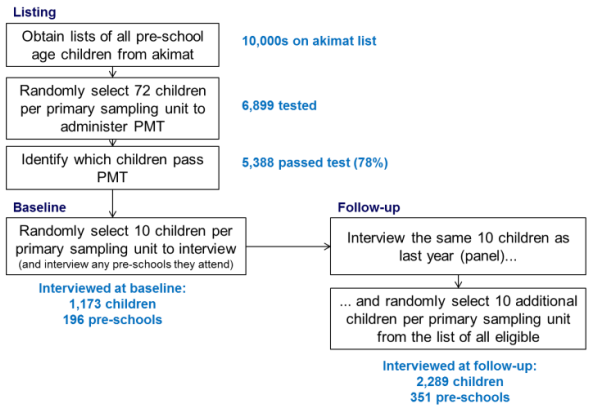
1. **Identification of children of the right age.** We obtained from the *okrug akimat* lists of all local children, with addresses and dates of birth. The *akimat* compiles the list twice a year as part of its process of ensuring that children are in school. Children were considered the right age for the survey if they met two criteria. First, they were aged at least four the day the interviewers went to the field. Second, they would remain eligible for CCT for 12 months; otherwise there

[4] See Oxford Policy Management (2012c) for a detailed analysis of the effectiveness of targeting in the CCT.

would be little possibility of detecting an impact at follow-up because the family would have stopped receiving the transfer. After this the team had lists of tens of thousands of children.

2. **Identification of the households that pass the proxy means test.** In each primary sampling unit 72 children of eligible age were randomly selected (or fewer, if there were not 72 in the *okrug*). The survey teams went to each household and administered BOTA's proxy means test, the test of about 10-15 minutes which results in an approximation of whether the household is poor or not. Households were replaced if they could not be found or were away at the time of interview, provided that replacements were available. In total the households of 6,899 children were interviewed. Since 78% of households passed the test this resulted in a pool of 5,388 eligible children available for the full interview (Figure 3.3) [5].

Figure 3.3 Selection of respondents for interview



Source: OPM.

3.4.2 Baseline survey

Ten households in each okrug were randomly selected from those eligible. An interview team returned as soon as possible after the listing and the calculation of the score to administer the full household interview. A few okrugs did not have 10 households eligible for interview; but the total number of interviews eventually completed, at 1,173, was very close to the planned 1,200.

In every case where the eligible child attended a pre-school facility the team also tried to gather information on the supply side at the pre-school, by administering a facility questionnaire. This was not always possible as many of the interviews took place over the summer months when the facility was closed for repair or there were no directors or administrators present; nonetheless interviews were conducted with 196 pre-school facilities.

3.4.3 Follow-up survey

The follow-up survey took place one year later to reduce the impact of seasonal changes in consumption or, more generally, behaviour relevant for the impacts. The one-year period between surveys was selected because most households in the programme receive the transfer for only a short time and many would not still be enrolled after two years. At follow-up the survey was twice

[5] The survey teams administered the proxy means test in both treatment and control areas, rather than using BOTA's own results in treatment areas. This is both because many eligible households in treatment areas had not undertaken the test, and also to ensure consistency with the way the test was applied between treatment and control areas.

as large, to maximise the possibility of detecting an impact. Some 2,289 households were successfully interviewed, including nearly 1,000 of those that were interviewed at baseline. Interviewing households twice means that part of our follow-up survey has a longitudinal dimension, a 'panel', whereby individual children can be tracked over time. We also interviewed 351 pre-school facilities.

3.5 The sample

3.5.1 The sampled children

Our final interviewed sample of 2,289 households of eligible children is split quite evenly between treatment and control groups: 1,170 were in treatment areas and 1,119 were in control areas (Table 3.1). There is also an even split between boys and girls. Of the sample, 966 children—some 42% of the total—form our panel, having been interviewed in the baseline survey as well.

Nearly all of the children were now aged 5 or 6 in the follow-up survey, having been aged 4 or 5 at the time of the baseline. This is the age group that remained eligible for the CCT for the full 12 months between the two survey rounds.

Table 3.1 Sex and age of sampled children

Indicator	Treatment				Control				TOTAL			
			Panel:				*Panel:*				*Panel:*	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Sex												
Male	613	52	259	51	571	51	236	51	1,184	52	495	51
Female	557	48	247	49	548	49	224	49	1,105	48	471	49
Age												
4 years	9	1	6	1	22	2	8	2	31	1	14	1
5 years	754	64	334	66	760	68	315	68	1,514	66	649	67
6 years	403	34	163	32	336	32	137	30	739	32	300	31
7 years	4	0	3	1	1	0	0	0	5	0	3	0
Total	**1,170**	**100**	**506**	**100**	**1,119**	**100**	**460**	**100**	**2,289**	**100**	**966**	**100**

Source: Follow-up survey. Note: This is the unweighted distribution of sampled children.

In treatment areas the probably of being selected for the sample was weighted in favour of households that were reported by BOTA as being beneficiaries of the CCT[6]. This improved the evaluation team's chances of being able to detect an impact. About three-quarters of the households interviewed in treatment areas were beneficiaries of the CCT. The estimate of the number of actual beneficiaries is discussed further in Annex E.4.

About 13% of households that the team tried to contact at follow-up were replaced, mostly because the household had moved, was absent during the survey or did not wish to be interviewed. Annex E.4 also describes the breakdown on reasons for non-interview and the way the weights were adjusted to ensure the sample remained representative of the whole population.

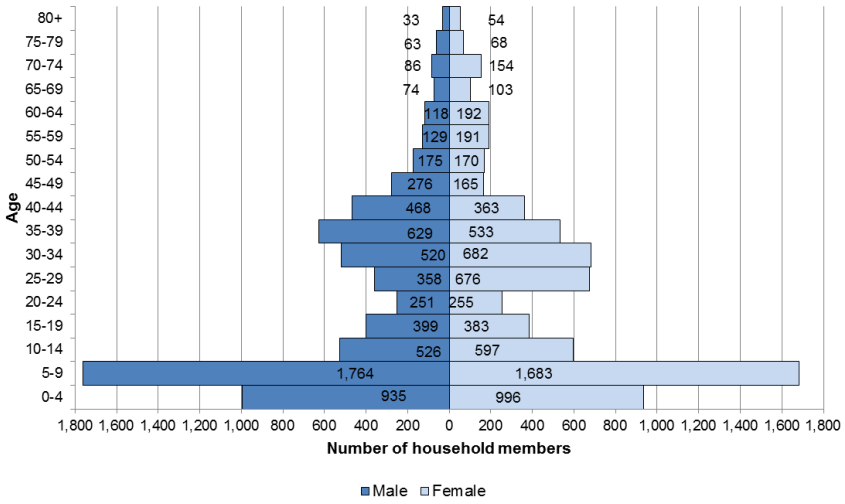
[6] The fact that a household was in a 'treatment' area did not mean that it had received the CCT. The targeting analysis in the baseline survey showed that just under half of households that had been eligible at the time of the survey had enrolled by April 2012.

3.5.2 Other household members

Among the 2,289 households interviewed, 79 (3%) included a child with a disability and 388 (17%) included a woman who was pregnant or who had given birth within the previous 12 months. These numbers are too small to be able to draw statistically significant inferences but the results of the questions relating to these categories are nonetheless valuable and have been presented as unweighted samples.

The distribution of household members by sex and age is shown in Figure 3.4. We see clearly the predominance of young children and of adults in their mid-20s to late 30s who are often their parents.

Figure 3.4 Sex and age of survey population



Source: Follow-up survey. Note: The numbers on the bars are the unweighted sample size.

4 How to interpret the analysis

4.1 Reading the tables

4.1.1 Reporting on treatment versus control

We have explained that at the baseline okrugs were randomly assigned to the status of 'treatment', where BOTA subsequently distributed cash, and 'control' , where it did not operate. This randomisation means that, at the outset, there was no real difference between the two types of location. For most variables a single baseline figure was reported, covering both treatment and control. The baseline report found only occasional chance differences between the two types of area for a small number of variables. The only systematic difference between the two groups was observed in relation to pre-school enrolment, where households in treatment areas had already begun to enrol their children into pre-school in anticipation of receiving the CCT, even before they had received any cash[7].

In the present report the results are shown separately for treatment and control locations. The difference can be attributed to BOTA, once external factors have been taken into account.

4.1.2 Reporting on beneficiaries versus non-beneficiaries

The baseline survey found that, even before they start receiving any transfers, households that enrol onto the CCT share characteristics that distinguish them from households that are also eligible but do not enrol. They are found, on average, to be less well off materially than eligible households that do not enrol. They have lower consumption and are significantly more likely to be indebted to shops and markets. They less often draw their main income from salaried employment, and have a greater reliance on casual and seasonal labour. They also contain more children and fewer adults and pensioners.

Because of these intrinsic differences, the results in the tables for treatment areas are disaggregated by beneficiary status (see Box 4.1 for what counts as a significant difference). This indicates the extent to which results are driven by changes in the beneficiary population rather than eligible non-beneficiaries.

'Beneficiary' denotes every household where at least one member is recorded on BOTA's management information system (MIS) as ever having enrolled onto the CCT by January 2013, or where the household itself reported ever having enrolled by the time of the survey. These two criteria do not always match. Although all households have been eligible for the CCT for the full year between the baseline and follow-up surveys, this does not mean that all those listed as beneficiaries have received a full 12 months of transfer. Some may have enrolled at a later date; others may have been suspended from the programme for non-compliance with conditions.

Note that we cannot determine BOTA's impact by comparing 'Beneficiary' with 'Control' because, as just noted, these two groups were already not similar at baseline. The comparable groups are 'All treatment' and 'Control'. The value across all respondents (treatment and control, beneficiary and non-beneficiary) is shown in the column headed 'Total'.

[7] Non-beneficiaries in treatment areas reported similar enrolment levels to households in control areas, so this value can be considered to be the baseline.

4.1.3 ITT vs. ATT

The difference in outcomes between the treatment areas and control areas shows the 'ITT', the impact on the population that BOTA intended to reach. You can see this impact in all tables by simply comparing the 'All treatment' column with the 'Control' column. The results accurately represent BOTA's overall impact in the areas that it was working. However, we know that many of those people in treatment areas received no intervention.

It is also useful to understand the impact of the CCT specifically on the people who received it, without dilution by those that received nothing. We mentioned in section 3.3 above that we could not directly measure this impact (the 'ATT') because there is no comparable group in control areas. Instead we have used econometric techniques—the 'instrumental variable' approach—to estimate the ATT. Where we find a significant impact we show it in the column entitled, 'Estimated effect on beneficiaries'. As would be expected, this effect is generally larger in magnitude than the overall effect on all households in treatment areas because it refers only to households that participated in the CCT[8]. If there is no significant impact we have left this column blank.

4.1.4 The 'N' value

On the right-hand side of each table, after the column with the total results, is a column entitled 'N'. This indicates the unweighted number of observations in the sample on which the results were based. It gives an indication of how certain we can be about the estimates. The more respondents answer a question, the more certain we can be that any differences identified are statistically significant.

4.1.5 Significant differences

Box 4.1 What counts as a significant difference?

Statistically significant differences between treatment and control locations, or between beneficiaries and non-beneficiaries in treatment areas, are marked in the tables with a series of asterisks:

* = Significant at the 10% level

** = Significant at the 5% level

*** = Significant at the 1% level

This means that, the more asterisks are shown, the more likely it is that the observed difference is due to real differences between the groups, rather than being due to chance because of who was interviewed. For example, in Table 5.1, the fact that beneficiary households have an average of 3.2 children and non-beneficiary households have an average of 2.9 children is extremely highly significant: with three asterisks (***) there is a 99% chance that this is a genuine difference between the two types of household.

Where results are not asterisked it does not mean that there is no difference between the groups, but rather that the difference cannot be asserted with such a high degree of confidence (90% certainty or more).

The asterisks may appear in any of three columns:

[8] Note again that the impact on beneficiaries, the ATT, is *not* just the difference between 'Beneficiaries' and 'Control', because those two groups are not comparable. The number cannot be calculated from the other figures in the tables.

1. Asterisks in the 'Beneficiary' column mean that there is a significant difference between beneficiaries and non-beneficiaries in treatment areas.
2. Asterisks in the 'All treatment' column means that there is a significant difference between all eligible households in treatment areas (regardless of whether beneficiaries or not) and all those in control areas, i.e. an impact is found among all eligible households in treated okrugs (under the 'ITT' approach).
3. Asterisks in the 'Estimated effect on beneficiaries' column means that there is a significant impact on CCT *beneficiaries* (under the 'ATT' approach).

PART B: FINDINGS ON THE ECD AND HOME ENVIRONMENT

5 Characteristics of the household

What we found at baseline, before the start of the transfer

- The average household eligible for the CCT consists of about six people, of whom three are adults and three are children. About one in every three eligible households includes a pensioner.
- Eligible households that do not enrol in the CCT tend to have more adults and fewer children than households that do enrol.
- Nearly nine out of every 10 children eligible for the CCT live with both their parents.
- While 99% of members of eligible households are Kazakh by citizenship the range of nationalities (ethnicities) represented is diverse and includes e.g. Uyghur, Russian, Turkish and Azeri as well as Kazakh. The language most commonly spoken at home is Kazakh. There are no significant differences at baseline between beneficiaries and non-beneficiaries in terms of ethnicity or language: these factors did not initially present barriers to enrolling on the CCT.

How we expected this to change

- We expect to find no change in household composition as a result of the CCT because the transfer value is likely to be too small to attract households to have more children or to take care of children from other families.
- We expect that some pre-school-age children will have moved from one household to another between the two survey rounds in order to be in a more suitable location to begin school.

Findings from the impact evaluation

- As expected, the CCT has not produced a change in the composition of eligible households. Patterns of migration into or out of the household, and rates of pregnancy, have not been significantly affected by the transfer. In this respect the BOTA programme differs from the experiences of some other CCTs worldwide. The short interval during which the transfer has been provided between the two surveys, of one year, reduces the likelihood of many changes in household composition.
- Differences in characteristics between beneficiary and non-beneficiary eligible households have become more pronounced over the last year. As at baseline, households that do not enrol in the CCT tend to have more adults and fewer children than those that do enrol. However, those that do not enrol are now more likely to be headed by women or the elderly, and to be Russian- rather than Kazakh-speaking. Households headed by graduates of higher education, too, are less likely to enrol.

5.1 The composition of the household is unaffected by BOTA

The composition of the average household eligible for the CCT has not changed significantly since the baseline survey (Table 5.1). As in 2011, a typical eligible household has six members, of whom three are children and three are adults. On average two of the children are under the age of seven. About one in three households includes at least one member of pension age. Some 18% of households include at least one woman who is pregnant or who has given birth in the last 12 months; this figure is reported to be slightly higher in treatment than in control areas, but the difference is not statistically significant.

Table 5.1 Household composition

	Treatment						N	
Indicator	Beneficiary	Non-beneficiary	All treatment	Control	TOTAL	Estimated effect on bens (ATT)	Treatment	All
Average household size	6.2	6.3	6.3	6.1	6.2	-	1170	2289
No. children 0-17	3.2***	2.9	3.1	3.0	3.1	-	1170	2289
No. adults 18 to pension age[1]	2.6***	2.9	2.7	2.7	2.7	-	1170	2289
No. of pensioners	0.4	0.5	0.4	0.4	0.4	-	1170	2289
Average number of children under 7 per household	2.0**	1.8	2.0	1.9	1.9	-	1170	2289
Household with a pensioner (%)	31.7*	40	35	32	34	-	1170	2289
Mean dependency ratio[2]	1.6***	1.4	1.5	1.5	1.5	-	1167	2285
Household with a currently or recently pregnant woman (%)	19*	15	18	17	18	-	1170	2289

Source: OPM follow-up survey. Notes: (1) The pension age is 58 for women and 63 for men. (2) The dependency ratio is the number of people of non-working age (children 0-17 and pensioners) for every adult of working age (18 years and older up to pension age) in the household.

The fact that the CCT is not shown to have influenced the composition of the average household during the survey period is important because studies of cash transfers elsewhere have found that they can incentivise households to change their structure. This may especially be the case with programmes where the total amount of money given to the household varies according to the number of eligible beneficiaries in it, of which the BOTA CCT is an example. Moreover, during the year of the survey BOTA actively sought out households with multiple beneficiaries to be sure that they were receiving the full amount to which they were entitled, under its 'activation' procedure to increase coverage whilst minimising administration costs, which might have been expected to incentivise households to add extra eligible beneficiaries into the family.

Household composition can change as a result of birth and death, marriage and divorce, adoption or migration. In a short timeframe such as the one-year interval between the baseline and follow-up surveys for the CCT it is likely that, if any effect were to have been found, it would only have been in relation to migration or to pregnancy rather than other reasons. A study of CCTs in Nicaragua and Honduras noted that CCTs may decrease outward migration if beneficiaries are required to remain in one place in order to meet the programme requirements, or increase it if the transfer enables the household to make a move that they might otherwise not afford (Winters *et al*., 2006). In contrast, migration into the household might be encouraged if the transfer offered households

rewards for taking in children or adults who would not otherwise receive a transfer if they lived elsewhere. As for pregnancy, the rate may increase in the short term if the benefit encourages households to bring forward the timing of planned children, or else decrease in the long term if the better quality of life reduces parents' desired level of fertility. The Winters *et al.* study found that the CCT in Nicaragua increased migration among adults relative to trends in other households, while the CCT in Honduras—for which the total value to the household increased with the number of eligible members—encouraged an increase in pregnancy in the short term. The BOTA CCT is not found to have had an effect on either of these areas in the year between the two survey rounds.

Most eligible children in our surveyed areas—nearly nine in every 10—continue to live with both their parents (Table 5.2). However, we find that in treatment areas it has become slightly less common for children to live away from both parents (4% vs. 6%). The impact on BOTA's beneficiaries is a reduction of about 4 percentage points in that living arrangement.

Table 5.2 Living arrangements of eligible children

	Treatment					Estimated effect on bens (ATT)	N	
Parental care status	**Beneficiary**	**Non-beneficiary**	**All treatment**	**Control**	**TOTAL**		**Treatment**	**All**
Live with both parents	88	85	87	85	86	-	1170	2289
Live with mother, not father	7	8	7	8	7	-	1170	2289
Live with father, not mother	1	3	2*	1	1	-	1170	2289
Live with neither mother nor father	4	4	4*	6	5	-4*	1170	2289
Total	**100**	**100**	**100**	**100**	**100**			

Source: OPM follow-up survey.

We also found some indication that children are moving from one family arrangement to another. Some 86 children that we attempted to interview, or about 3% of the total sample, could not be reached because, while the household in which they had previous lived was still in the same okrug, the children themselves had moved away to a different household. This corroborates the suggestion that children in Kazakhstan may live in rural areas with one set of family members when younger, and may eventually move away—possibly with or to their parents—as they near school age. We have no further information on the new living arrangements of these children because they were excluded from the survey, being outside the evaluation area.

5.2 Beneficiary and non-beneficiary households differ considerably

In areas where BOTA has been operating the characteristics of eligible households that participate in the CCT are very significantly different to those that are also eligible but do not take up the benefit. Many of these differences have become much more pronounced during the year that the CCT has operated in treatment areas (Table 5.3):

- **Differences in household composition.** Table 5.1 above confirms that households that become beneficiaries have, on average, more children—including of pre-school age—and fewer working-age adults and pensioners than those that are eligible but do not join the programme. These findings repeat the pattern identified in the baseline survey.
- **Differences in characteristics of the household head.** At the baseline survey few statistically significant differences were observed in the characteristics of the heads of

beneficiary and non-beneficiary households. Now we find that beneficiary households are very much less likely than non-beneficiaries to be headed by women or pensioners. We also see that the proportion of heads of CCT beneficiary households who have completed higher education is barely half that of eligible non-beneficiaries, at 19% vs. 32%.

- **Linguistic differences.** Households who speak Russian as their main language at home make up 6% of CCT beneficiaries, compared with 13% of eligible non-beneficiary households.

Table 5.3 Characteristics of beneficiary and non-beneficiary households

	Treatment					Estimated effect on bens (ATT)	N	
Indicator	**Beneficiary**	**Non-beneficiary**	**All treatment**	**Control**	**TOTAL**		**Treatment**	**All**
Sex of household head								
Male	85***	75	81	83	82	-	1170	2289
Female	15***	25	19	17	18	-	1170	2289
Age of household head								
Working age adult (18 to pension age)	83***	74	79	81	80	-	1170	2289
Pensioner	17***	26	21	19	20	-	1170	2289
Education of household head								
No education	1	2	1	1	1	-	1170	2289
Completed class 4 or lower	4	4	4	3	3	-	1170	2289
Completed class 5-9	18	19	18	20	19	-	1170	2289
Completed class 10-11	59***	43	53	55	54	-	1170	2289
Completed further / higher education	19***	32	24	22	23	-	1170	2289
Language of household members								
Kazakh	85***	73	80	85	82	-	1170	2289
Russian	6***	13	9	7	8	-	1170	2289
Uyghur	7	8	8	7	7	-	1170	2289
Turkish	2	4	3	1	2	-	1170	2289
Other	0	1	0	1	1	-	1170	2289
Total	**100**	**100**	**100**	**100**	**100**		**100**	**100**

Source: OPM follow-up survey.

The non-take-up of the CCT by heads of households who are female, elderly or highly educated, by households with a smaller dependency ratio and by Russian speakers shows that these households are either not being targeted for inclusion in the programme or are less likely to choose to apply.

6 Child care and the home environment

What we found at baseline, before the start of the transfer

- The main carer of pre-school-age children is nearly always a female in the same household, most commonly a parent or grandparent. About two-thirds of main carers are caring for another young child at the same time.
- Two-thirds of main carers are neither working nor looking for a job. They are mostly housewives or sometimes pensioners. Of the rest, nearly half would like to work but are unemployed. So fewer than one in five households have a main carer who combines caring duties with paid work outside the home.
- Where children are cared for by someone other than the main carer, this person is still likely to be a household member such as a parent, grandparent or sibling. Almost no household pays for their child to be looked after by someone outside the home.
- Children have a supportive environment at home in that almost all take part in learning activities such as reading, writing and drawing. Almost every child—99%—has toys at home, but books are much less common.

How we expected this to change

- We expect the CCT to free up the time of main carers if children now go to pre-school. This may encourage them to start looking for work, which would be seen as an increase in the number of people declaring themselves to be employed or unemployed rather than out of the workforce. But any difference is unlikely to be large since so many carers still have other children to look after.
- We do not expect an increase in the use of paid child care because most carers are at home.
- We may find that children are less likely to be left alone or with young siblings because adults can do their chores while the children are at pre-school.
- We may see an increase in the number of books at home for children in treatment areas because households may be asked to buy them for school or may be encouraged to promote their child's education.

Findings from the impact evaluation

- The CCT has influenced a shift from older to younger main carers that are more likely to be economically active compared to control households
- The CCT has reduced beneficiary households' dependence on older caregivers (grandparents) and caregivers from the extended family (such as aunts and uncles) as well as inadequate caregiving arrangements such as leaving children alone with another child under the age of 10 years old.
- We see that the CCT has increased the likelihood of main carers having a paid job. This is discussed further in section 10.3 below.
- The CCT has increased the number of children participating in learning activities at home, especially in the case of reading activities, though there is not a big improvement in the proportion who have books suitable for their age.

6.1 Caring arrangements

Early stages in the life of a child are key to brain development, and caring arrangements and the conditions in which the child lives are important indicators of the quality of home care. The survey collected detailed information on the people who had looked after the child during the previous week. Indicators of the learning environment at home as well as learning activities children regularly participate in were also collected to provide an overall picture of the child development context of CCT beneficiaries and its impact.

6.1.1 Main carer

The main carer of the pre-school-age child—defined as the person who is responsible for making sure that the child is fed, bathed and taken care of when ill—is almost always female (98%) (Table 6.1).

Table 6.1 Characteristics of main carers

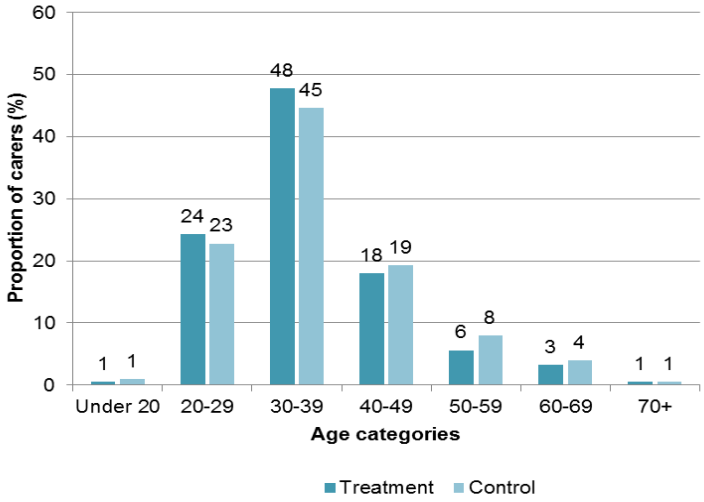
	Treatment					Estimated effect on bens (ATT)	N	
Indicators	**Beneficiary**	**Non-beneficiary**	**All treatment**	**Control**	**TOTAL**		**Treatment**	**All**
Sex of main carer								
Male	2	2	2	2	2	-	1170	2289
Female	98	98	98	98	98	-	1170	2289
Age of main carer								
Under 20	0	1	1	1	1	-	1170	2289
20-29	22	28	24	23	24	-	1170	2289
30-39	51**	43	48	45	46	-	1170	2289
40-49	19	17	18	19	19	-	1170	2289
50-59	5	6	6*	8	7	-4*	1170	2289
60-69	3	4	3	4	4	-	1170	2289
70+	0	1	1	1	1	-	1170	2289
Education of main carer (highest class completed)								
No education	0	0	0	0	0	-	1170	2289
Class 4 or lower	1	1	1	1	1	-	1170	2289
Class 5-9	12	10	11	11	11	-	1170	2289
Class 10-11	54	48	52	56	54	-	1170	2289
Further / higher education	33*	41	36	32	34	-	1170	2289
Total	**100**	**100**	**100**	**100**	**100**			

Source: OPM follow-up survey.

Looking at the distribution of the ages of main carers, a trend emerges suggesting those in treatment areas are slightly younger than in control areas: the proportion that are between the ages of 50 and 59 years old in treatment areas is 2% lower than in controls. Figure 6.1 presents the age profile of main carers graphically where it is clear that they tend to be younger in treatment areas and older in control areas. Analysis of household demographic data in Section 5 indicates that the CCT is not shown to have influenced household composition. Therefore it is likely that this trend is not due to the arrival of younger adults in the household: rather, as a result of the CCT,

those already in the household are able to take on 'main carer' responsibilities and are less dependent on older members of the household for help in the care of young children.

Figure 6.1 Age profile of main carers



Source: OPM follow-up survey.

This change in the characteristics of the main carer provides evidence of a shift in perception as to who has primary responsibility for the child. In cases where the reported main carer has changed, it does not necessarily mean that the person now designated as the main carer has taken on more caring duties than they did before the CCT. We can consider an example of a family where the parents work and the child previously stayed at home during the day with a grandparent. The enrolment of the child in pre-school to fulfil the BOTA conditionality may have relieved the grandparent of caring duties without increasing the overall burden of care on the parent, shifting the perception of who is the main carer from one to the other. Changes in the way that children spend time with their carers during the day are explored in section 6.1.3 below. We see the trend towards parents, and away from grandparents, being the main carer of the child in Table 6.2.

Table 6.2 Relationship of main carers to child (%)

	Treatment					Estimated effect on bens (ATT)	N	
Relation	Beneficiary	Non-beneficiary	All treatment	Control	TOTAL		Treatment	All
Parent	89	85	88	85	86	-	1170	2289
Brother / sister	1	2	1	1	1	-	1170	2289
Grandparent	9	12	10	13	11	-	1170	2289
Aunt / uncle	1	1	1	1	1	-	1170	2289
Other relation	0.3	0.1	0.2	0.1	0.2	-	1170	2289
No relation	0.0	0.4	0.2	0.0	0.1	-	1170	2289
Total	**100**	**100**	**100**	**100**	**100**			

Source: OPM follow-up survey.

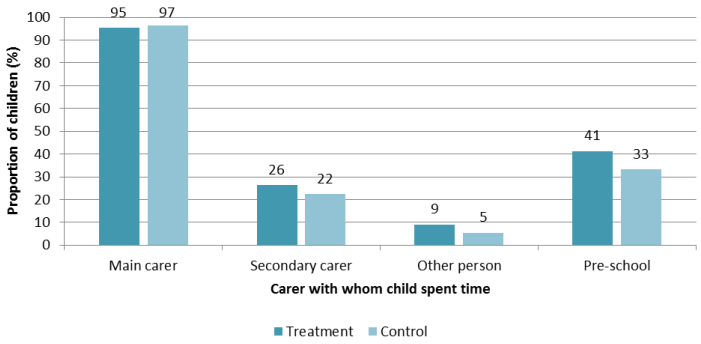
BOTA has also had an impact on the likelihood of main carers having a job. It is much more common for main carers in treatment areas to be economically active compared to control areas.

There is also a lower proportion of main carers that are economically inactive in treatment areas as compared to control. All of these effects are significant and correspond to the CCT influencing a shift towards younger main carers. Workforce characteristics of main carers are discussed in further detail in section 10.3.

6.1.2 Other caring arrangements

Given the shift to younger main carers that are economically active, it is important to consider whether the CCT has also had an impact on the caring arrangements that households use when the main carer is not looking after the child. Data on the distribution of caring arrangements across various types of caregivers indicates households in both treatment and control areas have a similar pattern of reliance on the main and secondary carers (Figure 6.2). Here the 'secondary carer' refers to any other person that takes a substantial role in looking after the child, having spent more than four hours in a row with the child during the previous week.

Figure 6.2 Caring arrangements used in previous day (% of households)



Source: OPM follow-up survey.

The majority of secondary carers are related to the family of the child, being either a grandparent or parent (Table 6.3). While the types of carers across treatment and control areas remain largely the same, it is significantly less common for beneficiary children to have either an aunt or an uncle as a secondary caregiver. This suggests the CCT has reduced the dependence of beneficiary households on extended family for child care. However, there has been no effect on the probability of grandparents providing support for child care: more than four in every 10 children (43%) had spent time being looked after by a grandparent in the week preceding the survey.

Table 6.3 Relationship of secondary carers to child (% of children who are looked after by the listed person)

	Treatment					Estimated effect on bens (ATT)	N	
Relation	Beneficiary	Non-beneficiary	All treatment	Control	TOTAL		Treatment	All
Parent	32	28	30	29	30	-	528	990
Brother / sister	29	23	27	24	26	-	528	990
Grandparent	44	46	45	41	43	-	528	990
Aunt / uncle	6	10	7	11	9	-6*	528	990
Other relation	3	4	4	4	4	-	528	990
No relation	1	0	1	1	1	-	528	990

Source: OPM follow-up survey. Note: These figures add up to more than 100% because some children have more than one secondary carer.

It is almost unheard of for BOTA's target households ever to pay for child care: just four households out of the sample of nearly 2,300 reported doing so. The CCT has not changed this. Households are not having to spend the transfer on more expensive child care arrangements.

The evaluation also investigated inappropriate care arrangements such as when children are left alone with another child under the age of 10 years old. This is known to increase the risk of accidents and is often collected in UNICEF Multiple Indicator Cluster Surveys (MICS). Overall, only a very small proportion (4%) of children were ever left alone with another child under 10 years old in the previous week. However, despite how uncommon this is, significantly fewer children in treatment households were left alone with another child when compared to controls. This may be a factor of the CCT removing the dependence of beneficiary households on alternative, and in this case inadequate, care arrangements.

6.1.3 The pattern of child care during the day

Although BOTA has not changed the types of caring arrangement that households employ to look after their child, it has changed the amount of time that children spend under each arrangement. Children in treatment areas now spend significantly less time with their main carer—an hour less every day, on average, at 10 hours compared with 11 hours (Table 6.4). This is replaced by some more time at pre-school and significantly more time with a secondary carer. A contributing factor to children spending less time with their main carer may also be the increased likelihood that that carer now works outside the home. This latter finding is explored in section 10.3 below.

Table 6.4 Time spent with carers during day (average hours per child)

	Treatment					Estimated effect on bens (ATT)	N	
Relation	Beneficiary	Non-beneficiary	All treatment	Control	TOTAL		Treatment	All
Main carer	10.1	10.0	10.1***	10.9	10.5	-1.4***	1135	2236
Secondary carer	1.6	2	1.8**	1.3	1.6	0.7**	1135	2236
Other	0.3	0.4	0.3	0.2	0.3	-	1135	2236
Pre-school	1.5	1.3	1.4	1.2	1.3	-	1135	2236
Nobody	0.1**	0	0	0	0	-	1135	2236
Total	**13.7**	**13.8**	**13.8**	**13.7**	**13.7**	**-**	**1135**	**2236**

Source: OPM follow-up survey. Note: Data refer to the distribution of caring arrangements on the previous working day.

6.2 Support for early learning

6.2.1 Materials for play and learning

The learning environment in which a child is raised is critical to his or her development and for later school performance and cognitive scores. Most respondents reported a diverse and supportive learning environment for their children, whether or not they live in an area supported by BOTA (Table 6.5). Nearly all children had shop-bought toys, but only 61% of households had three or more children's books. The slightly higher proportion of treatment households having more books (63% vs. 59%) was not found to be statistically significant. Nearly all households surveyed had a television and the majority also had a video or DVD player, but very few had a computer[9].

Table 6.5 Access to learning and playthings at home (%)

	Treatment					Estimated effect on bens (ATT)	N	
Indicators	Beneficiary	Non-beneficiary	All treatment	Control	TOTAL		Treatment	All
Playthings used								
Shop-bought toys	96	98	97	97	97	-	1170	2289
Home-made toys	47	42	45	53	49	-	1170	2289
Household objects	68**	60	65	69	67	-	1170	2289
Number of books appropriate for the child's age								
None	19	21	20	23	21	-	1170	2289
1-2	18	14	16	17	17	-	1170	2289
3 or more	62	64	63	59	61	-	1170	2289
Access to media								
Television	99**	100	99	99	99	-	1170	2289
Video player / DVD	57***	66	60	65	62	-	1170	2289
Computer	9**	19	13	14	14	-	1170	2289

Source: OPM follow-up survey.

[9] The significantly smaller proportion of CCT beneficiary households having electronic media compared with non-beneficiary households in the same area is not a consequence of the BOTA programme but a confirmation that, among eligible households, those that are less well off are more likely to join the CCT.

6.2.2 Learning activities

Most children had participated in at least four learning activities (such as reading, writing, story-telling etc.) in the previous week (Table 6.6). This indicates a rich and active learning environment for young children. Among CCT beneficiary households the proportion reporting having engaged in a range of learning activities is about five percentage points higher than we might have expected without the CCT. By far the greatest impact is seen on reading: 83% of eligible children in treatment areas had spent time during the previous week either reading or looking at books, compared with 74% in control areas. This effect is strongly driven by the CCT beneficiaries, of whom about 15 percentage more took part in reading than we would have expected without the CCT programme.

Table 6.6 Learning activities in previous seven days (%)

	Treatment					Estimated effect on bens (ATT)	N	
Indicators	Beneficiary	Non-beneficiary	All treatment	Control	TOTAL		Treatment	All
Reading	84	82	83***	74	79	15***	1170	2289
Writing	88	89	89	86	87	-	1170	2289
Telling stories	87	90	88	84	86	-	1170	2289
Counting	93	93	93	89	91	-	1170	2289
Describing shapes and colours	87	89	88*	80	84	12*	1170	2289
Any four or more learning activities [1]	99	99	99***	96	97	5***	1170	2289

Source: OPM follow-up survey. Note: (1) This includes any of the above-mentioned activities, and/or singing, physical activity, getting washed and going outside the house.

7 Pre-school enrolment and attendance

What we found at baseline, before the start of the transfer

- Just under half of eligible children were already enrolled in pre-school before the start of the CCT. Of these, more than half had ever attended a mini-centre; nearly 30% had been to kindergarten and 17% to a zero class.
- For children who used to attend pre-school but had dropped out the main reasons were the cost and the fact that there were people at home who could look after the child. For children who had never attended, an additional factor besides cost and the availability of carers was the absence of a pre-school in the area.
- Children enrolled in pre-school were attending, on average, for five days per week, six hours per day.
- Respondents whose children attend pre-school were generally satisfied with the quality of the facility.
- Pre-school education is widely valued, even by those who do not send their child to a facility.

How we expected this to change

- We expect that the proportion of children who have ever enrolled and are currently enrolled in pre-school will have increased in both treatment and control areas because the children are a year older and many will be expected to attend zero class. But the increase should be much higher in CCT areas.
- We expect to see the emergence of a new informal pre-school type, the 'BOTA facility', as indicated by the qualitative research. This may displace enrolment in more expensive formal pre-school education. It may also reduce the average number of days or hours of attendance, among those that attend a facility, since these informal pre-schools generally have much shorter timetables.
- The proportion of children who are taken out of pre-school or not enrolled because of financial constraints should reduce in treatment areas.

Findings from the impact evaluation

- Over three-quarters of our surveyed children have now ever been to pre-school. This is much higher than a year ago, for both treatment and control areas.
- BOTA has made a very substantial contribution to this increase: 84% of children in treatment areas have been to pre-school compared with 70% in control areas.
- Dropout for this age-group is already very low (6%), so it is difficult to detect whether BOTA has had any impact on the small number who are no longer in pre-school education.
- The types of facility attended have changed a lot. Over 10% of children in treatment areas have been to a newly created 'BOTA facility'. Enrolled children in treatment areas are more likely to have attended a mini-centre or informal BOTA facility, and less likely to have ever attended a kindergarten or zero class, than those in control areas. Children in treatment areas are more likely to have switched pre-schools.
- Children in both treatment and control areas are entering Class 1 of primary school earlier than might be expected, but significantly more so in treatment areas, where 15% of all children eligible for the CCT are now in Class 1, compared with 9% in control areas.
- The greater reliance on informal pre-schools in treatment areas has led to a reduction in the average number of days per week that children go to pre-school, among those that attend.
- Households continue to report being fairly satisfied with the quality of pre-school education. These opinions do not seem to have been damaged by the rapid set-up of informal facilities in temporary locations.

One of BOTA's main objectives in providing its cash transfer to ECD-age children is to increase enrolment and attendance at pre-school, which is a condition of receiving the transfer. The impact evaluation shows that the CCT has had a considerable influence on households' use of pre-schools. It has also had an effect on their supply.

7.1 The CCT's substantial impact on pre-school enrolment

7.1.1 More children are in pre-school

The children whose households were interviewed for the follow-up evaluation are now a year older than those that were interviewed at baseline, being mostly five or six years old. Many are now of the age where they are expected to attend a pre-school facility in preparation for moving into Class 1 in a year's time. We therefore naturally see an increase in the rate of children ever enrolled at pre-school in all areas, whether covered by BOTA or not, from fewer than half at baseline (44%) to more than three-quarters at follow-up (78%).

Table 7.1 Pre-school enrolment status of children eligible for the CCT

	Treatment						N	
	Beneficiary	Non-beneficiary	All treatment	Control	TOTAL	Estimated effect on bens (ATT)	Treatment	All
Enrolment status (%)								
Ever enrolled	92***	71	84***	70	78	22***	1170	2289
Never enrolled	8***	29	16***	30	22	-22***	1170	2289
Current enrolment status (of those ever enrolled) (%)								
Still enrolled	96	94	95	93	94	-	1010	1778
Mean time in pre-school (months)								
Still enrolled	12	11	12	11	12	-	961	1684
All children[1]	11***	8	10***	8	9	4***	1170	2289

Source: OPM follow-up survey. Note: (1) Includes those no longer enrolled or never enrolled as well as still enrolled.

However, BOTA has had a highly significant impact on the overall size of the change. In treatment areas some 84% of children have now attended a pre-school, compared with 70% in control areas (Table 7.1). This difference is strongly driven by additional enrolment among CCT beneficiaries, for whom we estimate that the proportion who have ever enrolled in pre-school is a full 22 percentage points higher than it would have been in the absence of the programme.

We find no evidence of a positive 'spillover effect' on enrolment among non-beneficiaries living in CCT communities: enrolment rates among those who are eligible for the CCT but not in the programme are exactly the same as among households living in control areas. Neither the increased interest in pre-school education among beneficiary households, nor the opening of new facilities to cater for them (see section 7.2.1 below), has caused non-enrolled households to change their propensity to enrol their child in pre-school. Equally, non-beneficiaries who are eligible for the CCT do not seem to have been squeezed out of education by those who receive the transfer, else their enrolment rates would have declined. The implication is that the extra enrolment among CCT beneficiaries has been achieved either by the expansion of supply—i.e. the creation of new facilities; by pushing children who were already in those facilities up to regular schools (Class 1) to make way for the new intake; or by excluding some other group of children. We find evidence to support these theories in section 8 below.

The pre-school enrolment rate among CCT beneficiaries is not 100%. BOTA explains that this may be because some households registered for the CCT but never actively participated in the programme owing to an absence of pre-school facilities. Others may have only recently enrolled at the time of the survey, or may be enrolled to receive one of the other categories of the CCT benefit but may have chosen not to sign up for the ECD category.

BOTA has not increased the total number of months spent in pre-school, for those that go: children had typically already been enrolled for 11-12 months by the time of the follow-up survey (Table 7.1). However, because more children in the target group are now going to pre-school, the total amount of pre-school education consumed by the cohort has gone up from an average of eight months per child in control areas, to 10 months in treatment areas. Moreover, children who begin their pre-school experience earlier may then move on to primary school earlier. This, too, may contribute to the explanation of the higher rates of children already attending Class 1 in treatment areas (see section 7.2 below).

7.1.2 Dropout and non-enrolment

The rate of dropout from pre-school education in our sampled age group is very low in all locations: more than nine out of every 10 children eligible for the CCT who have ever enrolled in pre-school are either still enrolled in a pre-school facility or are now in Class 1 of school (Table 7.1). In part the low dropout rate is because nearly half of enrolled children had only just started pre-school within the previous three months, which reflects the fact that the survey was conducted around the start of the academic year (July to November). But the retention rate of 94% is much higher than the rate that we found at baseline when our sampled children were four to five years old, and which was conducted around the same time of year. This suggests that participation in pre-school education fluctuates more among the younger age-group than among those nearing school age.

The provision of the cash transfer has not had a significant impact on the small remaining group of 6% of once-enrolled children who no longer attend, partly because cash is no longer the constraint since this age-group is eligible for free education in zero class (see next section on facility types). There are far fewer households in treatment areas than in control areas who cite financial constraints as the reason for withdrawing their child from pre-school, or not enrolling them; but the absolute number of households who took these measures is now so small, because enrolment rates in general are so good, that we cannot be certain of attributing this change to BOTA.

7.2 Changes in the types of pre-school attended

7.2.1 The creation of new facilities

BOTA's introduction of the CCT coincided in a timely fashion with the Government of Kazakhstan's Programme for the Provision of Pre-School Care and Education 2010-2014, known as 'Balapan'. Balapan is intended to restore Kazakhstan's pre-independence position as having, 'the best system of pre-school education in central Asia', by extending the number and range of pre-school facilities and the number of qualified staff (Government of Kazakhstan, 2010, p.3). Its objective is to increase enrolment at pre-school facilities to 70% of all children of pre-school age, including 100% of five- and six-year-olds, by 2015. The government also expanded the pre-school system by authorising the establishment of 'mini-centres' in 2006, since when the total number of pre-school facilities has increased by several thousand. These centres are much more varied in the way they operate than either the traditional kindergartens, which are usually large institutions offering full-time pre-school education to a wide age range, or the zero classes which offer free education for a few hours a day to children immediately before they start school. Mini-centres are also faster to set up than other school types as they are governed by different regulations.

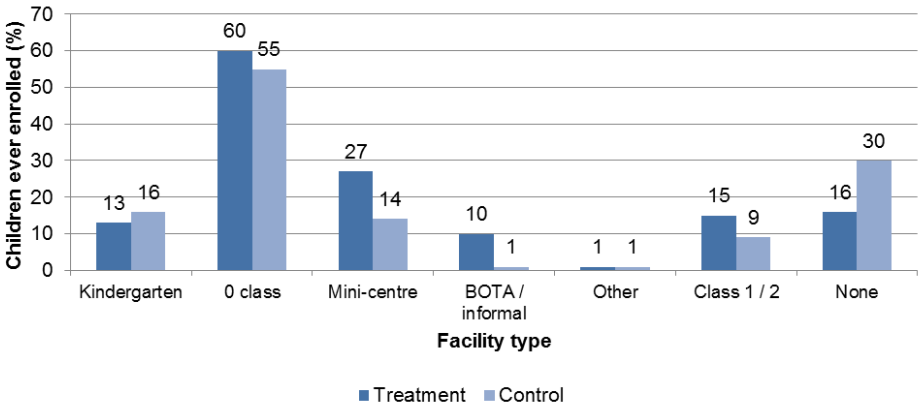
To this mix of three general types of pre-school available to five- and six-year-olds—kindergartens, zero classes and mini-centres—we find that BOTA's CCT programme has brought about the emergence of a fourth type, the informal pre-school group. In locations where pre-school facilities did not yet exist or had no available places, communities have set up their own, often using spare rooms in local buildings such as schools, in order to satisfy the CCT's requirement that children attend pre-school. BOTA reports that many of these are becoming formalised as mini-centres, though at the time of the survey in 2012 a lot of them retained their informal status.

Despite the creation of new facilities as a result of the BOTA programme we do not see any change in the average distance that a household has to go to reach their nearest pre-school in treatment areas compared with control areas. This suggests that the facilities may be concentrated in locations that already had some pre-school provision, such as okrug centres.

7.2.2 A shift in the type of pre-school that families choose for their child

BOTA has greatly influenced the type of pre-school that families choose to send their child to, and not only because many are now attending this new type (Figure 7.1 and Table 7.2.). There has been a surge in the numbers joining mini-centres as well as informal facilities. The proportion of children in BOTA's target group who have ever been to a mini-centre is now double in treatment areas compared with control areas (27% vs. 14%); among those who are in receipt of the BOTA transfer it is even higher, at almost triple the rate found in control areas (36%) (Table 7.2 below).

Figure 7.1 Type of facility ever attended (% of all children eligible for the CCT)



Source: OPM follow-up survey. Notes: (1) These figures add up to more than 100% because some children have been to more than one type of pre-school. (2) Differences for mini-centres, 'BOTA facilities' and Class 1/2 are statistically significant (see Table 7.2).

The rate of entry of BOTA's target group into kindergartens and zero classes has been much less affected by the introduction of the CCT. The small drop in the share of the overall population eligible for the CCT who have ever been to a kindergarten (13% vs. 16%) is not statistically significant. This is important because, by offering the same value of transfer to households regardless of what type of facility the child attends, there was a risk that the CCT might encourage households to enrol their child in the informal facility instead of the kindergarten that they might otherwise have chosen, especially since the average kindergarten costs more than the value of the CCT. Such a change could have had adverse consequences on children's learning given that kindergartens generally require their pupils to attend 40–50 hours per week and have a full programme of academic and recreational activities, whereas the (much cheaper) informal BOTA facilities may operate for as little as two hours a week. Fortunately we do not find significant evidence of an exodus from kindergartens.

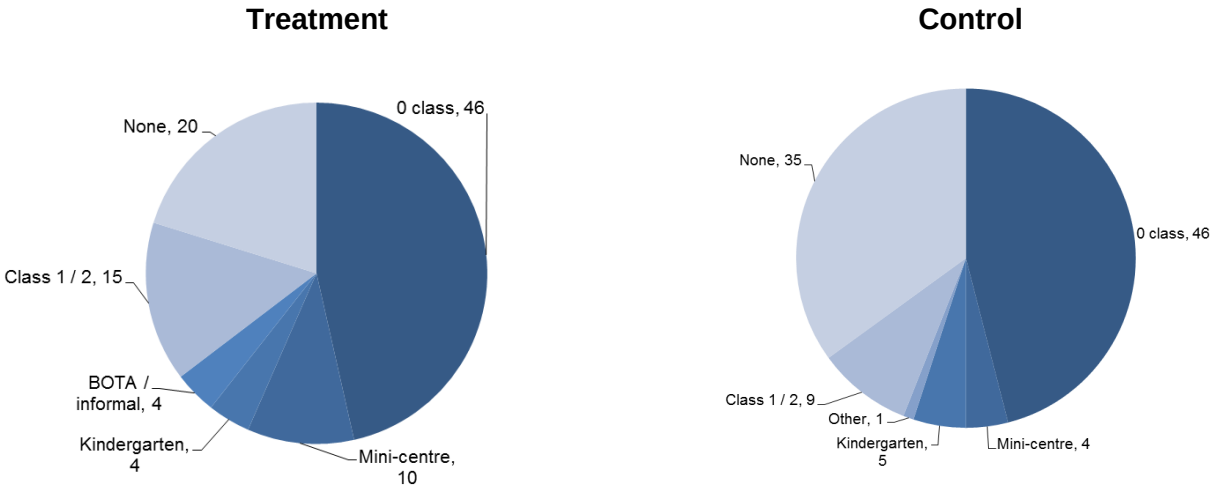
Table 7.2 Type of facility ever attended (% of all children eligible for the CCT)

Facility type	Treatment			Control	TOTAL	Estimated effect on bens (ATT)	N	
	Beneficiary	Non-beneficiary	All treatment				Treatment	All
Kindergarten	12	14	13	16	14	-	1170	2289
Zero class	61	57	60	55	57	-	1170	2289
Mini-centre	36***	13	27***	14	21	21***	1170	2289
'BOTA' / other informal group	15***	0	10***	1	6	14***	1170	2289
Other pre-school	1**	0	1	1	1	-	1170	2289
Class 1 / 2	14	17	15*	9	12	10*	1170	2289

Source: OPM follow-up survey. Notes: (1) These figures add up to more than 100% because some children have been to more than one type of pre-school. (2) Figures match those in Figure 7.1 above.

The CCT has made it more likely that children will move from one facility to another while they are still of pre-school age. We see that many children have passed through the informal 'BOTA' facility and gone to other types of education: among the 10% of children in treatment areas who had ever attended a BOTA facility, only 4% were still there at the time of the survey (compare Table 7.2 with Figure 7.2). Similarly, although some 57% of children had ever attended a zero class, fewer than half (46%) in all areas were still at this facility type. A striking factor contributing to this is the number of children of pre-school age who have already gone up to primary school.

Figure 7.2 Where are children now? (% of all children eligible for the CCT)



Source: OPM follow-up survey.

7.2.3 Earlier entry into primary school

Children are required to start Class 1 of primary school in the September preceding their seventh birthday. But, as Figure 7.2 shows, we unexpectedly find that some 15% of children in treatment areas and 9% in control areas are already in Class 1 or 2 of school, although they are not yet obliged to be. BOTA has had a significant impact in this respect. For BOTA beneficiaries we estimate that attendance of the surveyed children at primary school is some 10 percentage points higher than it would have been without the CCT. Among non-beneficiaries in CCT areas the rate of

entry into Class 1 is greater still, at some 17%, i.e. almost double the rate among children eligible for the CCT in control areas.

This suggests that the consequence of the CCT's encouragement of pre-school education is not so much that children are spending longer in pre-school—we have already seen above that that is not the case for those that go—but rather that they are moving up to school sooner. Pre-school facilities may therefore be resolving the problem of accommodating increased demand without breaching the maximum class sizes enshrined in regulations, by proposing to households whose children have already been attending for a little while that it is time for their children to move on. We discuss this more in section 8.3 below.

Only a longer term study of this cohort will be able to show the impact of this early school start on their eventual outcomes in education.

7.3 Pre-school attendance

Although children in CCT areas are more likely to be enrolled into a pre-school, those that do go to a facility spend slightly less time there than those in control areas. In treatment areas the typical facility attended by children eligible for the CCT is open for 4.8 days per week, compared with 5.0 days in control areas (Table 7.3). This indicates that informal facilities, in which children in treatment areas are more often enrolled, have reduced opening times compared with the more formal equivalents. We investigated this further and found that this difference is almost entirely due to the amount of pre-schooling attended by the five-year-olds in our sample, of whom there are more in treatment than in control areas who attend for one, two or three days a week[10]. By the time children are six years old nearly everyone who goes to pre-school does so for the full five days a week.

Table 7.3 Time spent in education facility

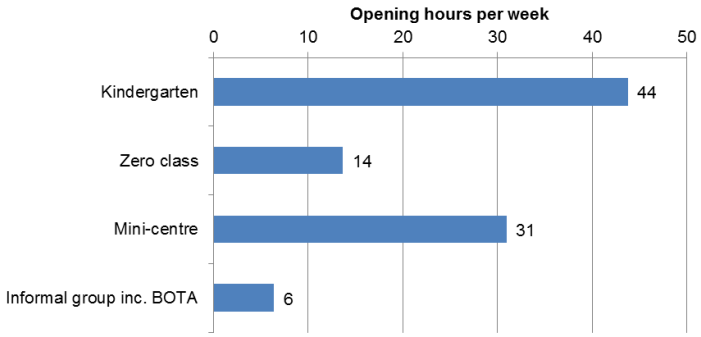
	Treatment					Estimated effect on bens (ATT)	N	
Indicator	Beneficiary	Non-beneficiary	All treatment	Control	TOTAL		Treatment	All
Average hours per day	3.7	3.5	3.6	3.7	3.7		958	1681
Average days per week	4.8***	5.0	4.8***	5.0	4.9	-0.2***	959	1682
Attendance rate yesterday	95**	98	96	97	96		814	1442

Source: OPM follow-up survey. Note: Figures for average number of hours per day and days per week that the facility is open apply to Class 1 of school as well as pre-school facilities.

The number of hours per day that children typically attend has declined sharply since the baseline survey, from six hours to about four hours per day in all locations. This is because zero classes and Class 1 of school only operate for half-days, and many more children now attend these facility types. Figure 7.3 shows the average number of hours per week that the different facility types are open.

[10] Nonetheless this applies to only a small proportion of children: over 90% are still attending for five days per week.

Figure 7.3 Typical weekly opening hours of facilities attended by children eligible for the CCT, by facility type



Source: OPM follow-up survey. Note: (1) This includes both treatment and control areas (2) The figure shows the average opening hours reported by respondents for the facility attended by their child. See also Table 8.5 for the daily opening hours reported by the facilities themselves.

7.4 Little change in perceptions about pre-school education

In the baseline survey households already mostly said that they considered pre-school education to be valuable, and those whose children were enrolled were largely satisfied with the facility attended. The change in pre-school experience brought about by BOTA has not translated into significant improvements or declines in perceptions of the quality of any specific aspect of the facility such as the teaching, buildings or management. However, when asked to sum up their view of the overall quality of the pre-school, those in treatment areas were more likely to say it was, 'Very good' rather than just satisfactory.

We had expected that we might find a worsening of opinions about infrastructure among BOTA beneficiaries because the informal 'BOTA' facilities have been set up rather rapidly, often in temporary locations that double up with other functions such as libraries. Surprisingly, and contrary to expectations, the quality of the building was the only aspect of pre-school with which BOTA beneficiaries were very much more satisfied than non-beneficiaries living in the same locations. It is possible that the mini-centres and informal BOTA facilities attended by these children have access to some of the facilities of the full school to which they are often attached.

8 Conditions at pre-school facilities

What we found at baseline, before the start of the transfer (from an unweighted sample of 196 facilities)

- More than half of the pre-schools we interviewed at baseline had been founded within the previous five years
- About six in every 10 said they could officially take on new children only at the start of the year, though some said that informally space might be found if needed. About three-quarters of facilities had only one or two pre-school groups, so even a short waiting list might be enough to make it difficult eventually to get a place.
- Facilities vary enormously by type. Kindergartens usually operate for full days, have many amenities and offer a great range of activities. Almost all charge a monthly fee. In contrast zero classes generally operate for half- rather than full days, and focus on academic preparation for school. They are less likely to provide recreational and social activities or meals. Almost all are free. Mini-centres fall between these two. They vary greatly in opening hours, cost, amenities and meals. In staffing they are closer to zero classes, while in terms of activities they tend to be closer to kindergartens.

How we expected this to change

- We expected to find evidence of the new informal 'BOTA facilities set up especially for the CCT programme
- Pre-schools may have had to create new groups or expand class sizes to accommodate the extra demand for places
- We did not expect facilities to change their fees to capture the CCT, especially since many are free

Findings from the impact evaluation

- The creation of new 'BOTA facilities' to absorb some of the demand from CCT recipients means that existing pre-schools have largely avoided experiencing an expansion in overall enrolment or an increased likelihood of having a waiting list. This may also be because kindergartens and zero classes are fairly tightly regulated and cannot easily expand. However, a greater proportion of the mini-centres that we interviewed in treatment areas had waiting lists compared with those in control areas.
- CCT recipients are being prioritised for enrolment in some pre-schools: about one-third of those interviewed where BOTA is operating said that receipt of the benefit would be a consideration in selecting pupils.
- The experience at a BOTA facility is very different to that at a regular kindergarten. Typically they have a single group with an average of 17 children, and two staff members who may not have a higher education qualification. Most BOTA facilities are open for no more than two hours at a time, and because of this they have a smaller range of activities each day than a kindergarten, though a similar number to zero classes which also open for only a half-day at a time. They less often report having heating and indoor toilets than other facility types.
- The suspension of the CCT for children attending less than 85% of the facility's opening hours is illogical when some are open for two hours a week and others are open for 50 hours a week.
- The transfer value of KZT 3,600 achieves its goal of requiring households to contribute a proportion of monthly fees, for those children enrolled in a typical kindergarten (KZT 7,500) or fee-paying mini-centre (just over KZT 5,000). But all zero classes and one-quarter of interviewed mini-centres are free, and the average BOTA facility charges less than KZT 1,000. For children enrolled in these facilities the transfer can be spent on other things. We do not find that pre-schools have changed their prices as a result of the CCT.

8.1 The interview sample

The increased enrolment of children in pre-school in treatment areas is a positive result; but it is useful to understand the conditions they experience when they attend. The team interviewed as many as possible of the facilities attended by children in the sample, in both treatment and control areas. Some 351 facilities were interviewed. The results are not statistically representative either of all pre-schools—since there is no list of the 'universe' of every facility in every okrug—or of all those attended by eligible children, since many facilities were closed during the summer and did not respond. Nonetheless this large sample size enables us to explore the extent to which children are receiving a similar quality of education in terms of class size, the types of lessons learned and the qualifications of the teachers. The comparison between the new 'BOTA facilities' and the longer established facility types is of particular interest.

Some 60% of facilities interviewed were zero classes, in line with the fact that this was the most common facility type attended by the children represented by our sample (Table 8.1). Mini-centres, kindergartens and 'BOTA facilities' are all also represented in the data.

Table 8.1 The interview sample, by facility type

Type of facility	Treatment		Control		All	
	%	No.	%	No.	%	No.
Kindergarten	7	14	10	16	9	30
Zero class	53	104	68	106	60	210
Mini-centre	26	51	21	33	24	84
Informal / 'BOTA' facility[1]	13	26	1	1	8	27
Total	**100**	**195**	**100**	**156**	**100**	**351**

Source: OPM follow-up facility survey. Note: (1) The informal facility interviewed in the control area is an informal playgroup, not related to BOTA. In treatment areas all informal facilities are related to BOTA.

8.2 Status of facilities interviewed

We continue to find that a high proportion of facilities have been established within the last five years: more than half of interviewed pre-schools for whom the information is known reported being set up since 2007 (Table 8.2). This includes almost all mini-centres and informal 'BOTA facilities'.

Table 8.2 Date of establishment of interviewed facilities (%)

Date established	Treatment	Control	All	N
2011–12	19	5	12	351
2009-10	14	15	15	351
2007-08	14	21	17	351
2005-06	6	7	7	351
2000-04	11	18	14	351
1990-99	6	7	6	351
pre-1990	7	10	8	351
Unknown	24	18	21	351
Total	**100**	**100**	**100**	

Source: OPM follow-up facility survey.

We see here the effect of the government's policy of expansion of pre-school provision: the creation of new facilities coincides with the introduction of new regulations on mini-centres in 2006 and the Balapan programme in 2010. We also see that how CCT has encouraged the creation of new facilities: 19% of the pre-schools that we talked to in treatment areas had been founded since the CCT started, in 2011 or 2012, compared with 5% in control areas. About two-thirds of those created in treatment areas are 'BOTA facilities', with the remainder being a range of facility types.

Nearly all interviewed facilities (92%) are state-funded, including all of the zero classes and mini-centres (Table 8.3). However, there has been a rise in the proportion that are funded exclusively from private sources, from 2% of interviewed facilities at the baseline to 7% at follow-up. This is because most of the informal 'BOTA facilities' are private. Some BOTA facilities say they receive state funding which is an indication that they may be moving towards formal registration as a mini-centre or other pre-school type.

Table 8.3 Funding status (% of interviewed facilities)

Indicator	Kindergarten	Zero class	Mini-centre	BOTA facility	All	N
Funding status of facility						
Public	77	100	100	22	92	351
Private	10	0	0	78	7	351
Mixed public and private	13	0	0	0	1	351
Sources of additional support in last year						
Government	17	7	9	0	8	329
Private individuals / companies / NGOs	14	13	22	4	14	329
Both government and private	10	2	7	0	4	329
No additional support	59	79	62	96	74	329
Total	**100**	**100**	**100**	**100**	**100**	

Source: OPM follow-up facility survey.

Facilities are no more likely now than a year ago to say that they had received any additional support from either public or private sources on top of their regular funding for recurrent expenditure, such as for construction of a new facility, or buildings within an existing facility, or the provision of extra equipment. Three-quarters of facilities interviewed had received no additional support; some 18% had been helped by private sources such as parents, NGOs or private companies (including e.g. voluntary labour to help with renovations as well as materials, books or equipment), while a smaller proportion had been provided with some additional state investment.

8.3 Enrolment

The increased enrolment brought about by the CCT has been noticeable to professionals working in pre-school education. In treatment areas two-thirds of our respondents for the facility survey—who were mainly directors, deputy directors or teachers—considered that most of the children aged four to six in their okrug were now enrolled in a pre-school facility, while only about 40% of respondents in control areas were of this opinion[11].

Here we face a conundrum that was alluded to in section 7.2. BOTA's stimulation of demand for pre-schools has not resulted in greater pressure on the size of existing facilities. Pre-schools in

[11] Figures refer to respondents who felt that the enrolment rate among this age-group was 75% or more.

treatment areas are no more likely than those in control areas to report an increase in enrolment since last year. The average enrolment of 80 children per kindergarten, 37 per zero class facility and 28 per mini-centre is identical across survey respondents in treatment and control areas[12]. Class sizes are limited by regulation (usually to 25 children per class, with variations depending on age and on any special needs), so facilities cannot grow unless they open new groups. So if more of the children targeted by BOTA are now in pre-school, but the average size of pre-school enrolment has not changed, how have these extra children been fitted in?

We have seen two possible outlets for this new demand for pre-schooling in section 7.2 above:

1. **Supply-side expansion**—the creation of designated 'BOTA facilities', and perhaps also the establishment of new mini-centres, some of which may have been derived from the BOTA facilities.
2. **Transfer of pre-school children to Class 1** of primary school.

To this we can add a third potential explanation:

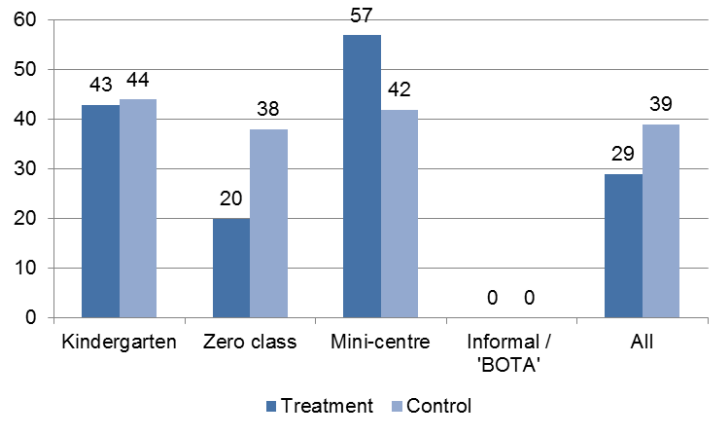
3. **Exclusion of children not in BOTA's target group.** Our survey measures the impact of BOTA on its target population. We therefore cannot know the extent to which children from better off families are being left out from traditional pre-school facilities. However, it is plausible that if facilities prioritise the enrolment of poorer households, in the context of a finite number of places, then these better off households may find it harder to obtain a place. We consider this more below in the discussion of criteria for enrolment.

These three routes to accommodating extra demand have contrasting effects on waiting lists. The absorption of some of the extra demand by new facilities or by transferring children to primary school should have no effect on waiting lists, or might even reduce them if non-CCT beneficiaries can also attend the newly opened pre-schools (this is not the case with 'BOTA facilities' but should be the case with any new mini-centres). Any exclusion of children who might otherwise attend would add to waiting lists.

We do not find many pre-schools increasingly resorting to waiting lists. In fact, it appears that BOTA has relieved the pressure on zero classes, for whom many fewer have waiting lists in treatment than control areas (Figure 8.1). The main facility type where it appears to have increased demand that cannot be met is that of mini-centres, of which the proportion of those interviewed that have a waiting list is 57% in treatment and 42% in control areas. Overall, since BOTA facilities have no waiting lists at all, pre-schools in CCT areas are better able to accommodate demand. This highlights the importance of encouraging the closer integration of these specially created facilities into the regular pre-school system before the CCT ends and the incentive for them to remain open diminishes.

[12] BOTA facilities are much smaller than their more established counterparts, having an average of only 17 children, usually in a single group.

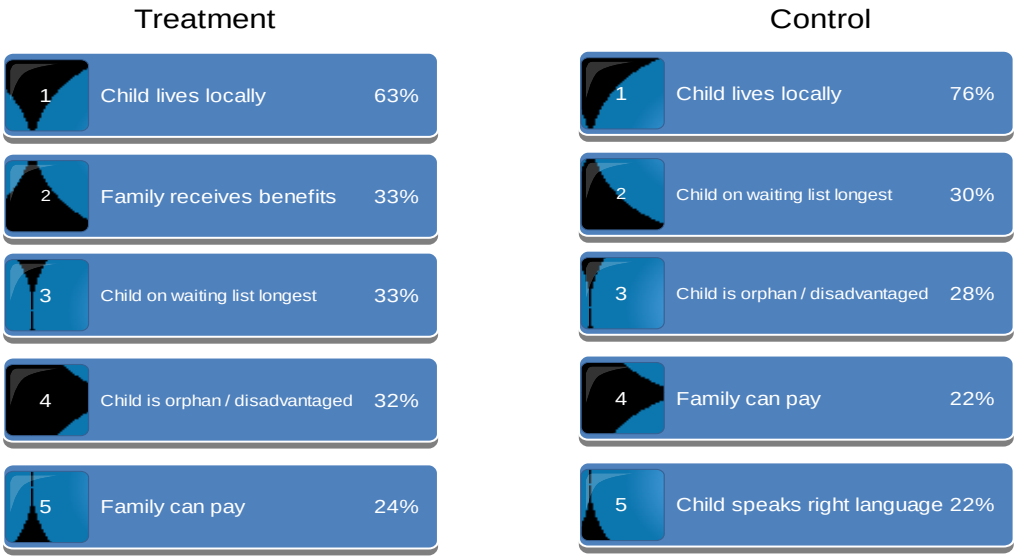
Figure 8.1 Interviewed facilities with a waiting list, by facility type (%)



Source: OPM follow-up facility survey.

However, the CCT has had a considerable influence on decisions as to which children in the community get enrolled as a priority. It is nearly always the pre-school facilities themselves, rather than the okrug or rayon akimat, who have responsibility for selecting who will attend. In areas where the CCT is operating, one-third of all interviewed facilities say that if a space becomes available they prioritise the enrolment of children who are participating in the programme. Being in receipt of a benefit is now the most commonly cited reason for selecting a child for enrolment among pre-schools interviewed in treatment areas after that of the child living locally, while in control areas households that are receiving other benefits, such as state benefits, get no special priority (Figure 8.2).

Figure 8.2 Top criteria for enrolling children (% of facilities reporting criterion as a priority)



Source: OPM follow-up facility survey. Note: Figure shows proportion of facilities citing each criterion as one of their top three factors in selecting who should attend.

This difference is not solely due to the BOTA facilities who, by definition, prioritise BOTA children. About one-quarter of kindergartens and zero classes and one-third of mini-centres that we

interviewed in treatment areas, too, are prioritising the enrolment of CCT beneficiaries over other children (Table 8.4). This, too, points to a possibility that children not targeted by BOTA are not being prioritised for enrolment.

Table 8.4 Facilities reporting priority enrolment for families receiving benefits (% of facilities, by type)

Facility type	Treatment	Control	All
Kindergarten	23	0	12
Zero class	22	1	13
Mini-centre	31	0	21
BOTA facility	88	0	85

Source: OPM follow-up facility survey.

8.4 Attendance

The CCT requires children to attend pre-school for 85% of the days that it is open. If, over a two-month period, they do not meet this average attendance they lose the subsequent payment. However, the enormous variation in opening hours of different facilities renders the conditionality expressed in percentage terms, rather than an absolute number of hours, somewhat meaningless. Every kindergarten that we interviewed was open for at least eight hours per day, while almost every BOTA facility was open for no more than four hours at a time, and usually only two hours, which is much less than BOTA intended when it proposed incentivising attendance at pre-school (Table 8.5). This considerably changes the perception of the likely benefit and possible long-term impact of the CCT. A child that spends two hours at a time at a BOTA facility will necessarily have much fewer opportunities for a range of learning and recreational activities than one who attends kindergarten for 10 hours a day, as discussed further in section 8.7 below.

What is more, a child that goes to kindergarten for less than 85% of its official opening hours might still be attending for 30 hours a week. It would be odd to penalise this when children attending BOTA facilities receive only a fraction of this exposure.

Table 8.5 Opening hours per day, by facility type (% of interviewed facilities)

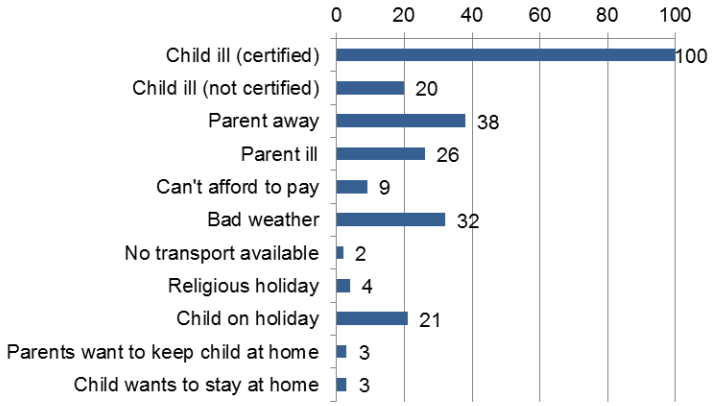
No. of hours open	Kindergarten	Zero class	Mini-centre	BOTA facility	Total
Up to 2 hours	0	20	1	70	18
Greater than 2, up to 4 hours	0	78	24	26	54
Greater than 4, up to 6 hours	0	1	2	0	1
Greater than 6, up to 8 hours	0	0	8	4	3
Greater than 8, up to 10 hours	67	0	63	0	21
More than 10 hours	33	0	1	0	3
Total	**100**	**100**	**100**	**100**	**100**

Source: OPM follow-up facility survey. Notes: (1) Data refer to opening hours for the groups attended by sampled children, on the most recent day when the facility was open. (2) n = 351.

The CCT's requirement for teachers to closely monitor the attendance of beneficiary children has not led to any changes in their practice of how they maintain registers or classify absences. Some 99% of interviewed facilities keep attendance registers. All of them classify a child's illness as an excusable reason for absence, which means that such occasions are disregarded when calculating

the child's attendance record for the CCT conditionality. Many facilities are quite strict regarding other reasons for absence: across all facility types, and in both treatment and control areas, the majority of facilities cite only one or two other acceptable reasons for absence, which might include severe weather conditions or the illness or absence of the parent (Figure 8.3).

Figure 8.3 Excusable reasons for absence (% of interviewed facilities)



Source: OPM follow-up facility survey.

8.5 Costs of attending pre-school

The CCT is calculated as a percentage of the minimum value required to meet basic food and non-food needs, but its objective has been to cover part of the cost of pre-school education while encouraging families to invest a small amount of their own resources to cover the remainder. In 2012 its value was KZT 3,600 a month. For families whose child goes to a zero class there is no need to spend the transfer on school fees because attendance is free. All kindergartens and three-quarters of mini-centres charge a monthly fee—set at an average of almost KZT 7,500 for the former and a little over KZT 5,000 for the latter—so for these facility types the CCT achieves its aim of helping households to meet some but not all of the typical cost. There is no evidence that the introduction of the CCT has encouraged pre-schools to increase their prices: within each type of facility, charges are broadly similar in treatment and control areas. As for the BOTA facilities, most charge a fee but set at a modest level of an average of less than KZT 1,000 per month. This is in keeping with their very short opening hours compared with more formal establishments.

8.6 Staffing

Since kindergartens are much bigger than any other facility type it is natural that they have much larger staff numbers. The average interviewed kindergarten has over 20 staff members, of whom about three-quarters are caregivers, their assistants and specialists teachers. The remainder are in management positions or support staff. In contrast, zero classes and mini-centres have only about one-third of that number of staff on average, at around six or seven in total. The BOTA facilities are the smallest of all, usually having just a director and one caregiver.

Table 8.6 Mean number of staff, by facility type

	Kindergarten	Zero class	Mini-centre	BOTA facility	Total
Management	3	3	2	1	3
Caregivers (*vospitateli*)	9	1	2	1	2
Caregivers' assistants (*nyanechki*)	5	0	1	0	1
Teachers (*uchitelya*)	1	1	0	0	1
Ancillary staff[1]	3	1	2	0	1
Total	**21**	**6**	**7**	**2**	**8**

Source: OPM follow-up facility survey. Note: (1) Includes nurses, cooks, security guards, laundry staff and other support staff.

Staff are generally well qualified. In nearly half of all facilities interviewed, every teacher, caregiver and managerial staff member had a higher education qualification, almost always with a specialism in education. The only facilities where no staff member was qualified to this level were BOTA facilities, of which eight out of the 27 interviewed had no staff with higher education.

8.7 Resources and activities for children at pre-school

8.7.1 Amenities

Conditions at pre-schools vary enormously depending on the type (Table 8.7). Kindergartens are generally much better resourced than any other type of pre-school facility; this is consistent with the fact that they are much bigger, are open for longer hours and charge higher fees. A child attending a kindergarten is very likely to be studying in a heated building with hot water, drinking water and indoor toilets all available on site. He or she will have somewhere to play outside and a bed for rest during the day, and will usually have access to toys, games and a library.

Zero classes usually teach children for half- rather than whole days, and concentrate during this time on academic preparation for school. Fewer of them therefore have recreational play equipment, toys, televisions or musical instruments than kindergartens do, whereas they are just as likely to have a library: some 90% of respondents said they had library books available for children. Very few reported having indoor toilets or hot water.

Mini-centres can be much more flexible in how they operate than kindergartens or zero classes, and this is reflected in the fact that the availability of amenities in these facility types falls somewhere in between the other two. Some are run like kindergartens, with full days of academic and play activities, while others have a shorter, more structured timetable similar to zero classes. Most have a library, toys and games and a television, but the presence of utilities such as indoor toilets and hot water is more variable from one facility to another.

Table 8.7 Amenities in pre-schools, by facility type (% of interviewed facilities)

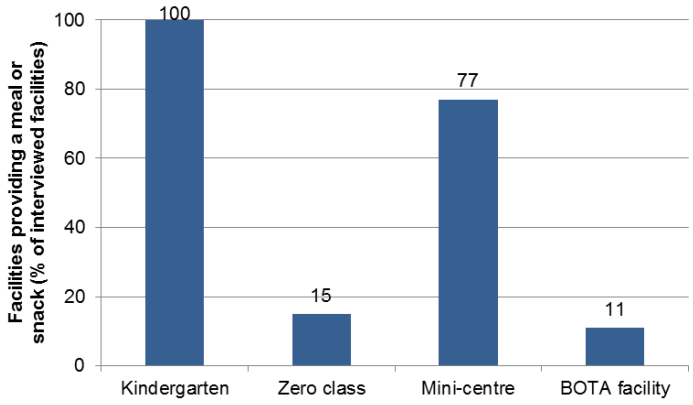
	Kindergarten	Zero class	Mini-centre	BOTA facility	Total
Utilities					
Heating	70	68	74	63	69
Hot water	83	13	45	11	27
Drinking water	97	76	89	52	79
Indoor toilets	97	20	61	19	36
Outdoor facilities					
Outdoor space	100	82	81	89	84
Play equipment outdoors	100	66	64	52	67
Indoor facilities					
Indoor gymnasium / hall	60	46	30	22	41
Beds	93	1	77	7	28
Library	90	90	89	74	89
Toys / games / balls	97	80	94	78	84
TV / DVD / Video player	100	60	95	63	72
Computer	40	12	11	15	14
Musical instruments	77	26	31	22	31

Source: OPM follow-up facility survey. Note: n = 351.

The informal 'BOTA facilities', that have been one of the main impacts of the CCT on pre-school supply, are often not yet able to provide amenities that match those of the three more established pre-school types. This means that children who attend these facilities are getting a very different pre-school experience to those that attend, say, a kindergarten. In every aspect of general infrastructure such as heating, water and toilets the proportion of BOTA facilities that report these amenities is lower than for any other facility type: half of the interviewed BOTA facilities have drinking water, and only one-fifth have indoor toilets. Provision of library books, toys and outdoor play equipment is also rather variable.

This applies also to the provision of food: only three out of the 27 BOTA facilities we interviewed offered food, with just one providing lunch and the other two offering a snack (Figure 8.4). In contrast every kindergarten provided children with a minimum of both breakfast and lunch. In this respect BOTA facilities are similar to zero classes, perhaps because they too tend not to be open for the whole day.

Figure 8.4 Facilities providing a meal or snack (% of interviewed facilities)



Source: OPM follow-up facility survey.

8.7.2 Activities during the school day

Pre-schools cover a range of lessons and activities during the school day. The emphasis of zero classes on academic preparation for school is seen in that three-quarters of those interviewed had held lessons in reading and writing on the most recent day they were open (Table 8.8), compared with fewer than half in any other school type. In other respects the different activities offered are rather similar, though BOTA groups were less likely to report having classes in music or sport, which reflects that they less often have facilities to do so.

Table 8.8 Activities carried out in pre-school on most recent day, by facility type (% of interviewed facilities)[1]

Lesson	Kindergarten	Zero class	Mini-centre	BOTA facility	Total
Reading / writing	38	74	45	41	61
Speaking	38	68	57	89	64
Story-telling	45	42	66	30	47
Numbers	38	45	45	22	42
Drawing	72	76	74	78	76
Music / singing	62	42	46	26	43
Watch television / DVD	93	18	78	15	39
Physical exercise	97	59	88	30	67

Source: Baseline survey. Note: (1) The respondent was asked for the timetable of activities for the pre-school group containing the greatest number of sampled children, on the most recent day that the school was open.

On average, kindergartens and mini-centres cited a greater variety of activities being on offer each day for children compared with zero classes and BOTA facilities. The former listed an average of seven to eight activities per day, including both those summarised in Table 8.8 above and also other formal lessons or playtime, while the latter reported an average of four or five activities.

PART C: OTHER DIRECT AND INDIRECT IMPACTS

9 Health and nutrition

What we found at baseline, before the start of the transfer

- More than nine in every 10 households consider that they have a full and varied diet. Very few felt that they sometimes ate less than they wished, or ate food of a lesser quality.
- Children eat regular meals and snacks from a wide variety of food groups.
- About one in five households has a chronically ill member, and a similar proportion has a member with a physical disability.

How we expected this to change

- We do not expect to find significant changes in diet or health among either children or other household members as a result of the CCT.

Findings from the impact evaluation

- Children in treatment households have a significantly lower prevalence of pneumonia compared to children in control households
- Children in treatment households more commonly access health care services when ill and have higher exposure to Vitamin A distribution
- Children in beneficiary households eat higher quality foods such as meat and offal

9.1 No impact on the overall health of the household

In Kazakhstan, chronic diseases such as cardiovascular disease, cancer and diabetes account for more than three-quarters of all deaths (World Health Organization, 2011). Overall, one in every three households surveyed has at least one chronically ill household member, while about one in every five has at least one member with a physical impairment (Table 9.1). Such characteristics are common in both treatment and control areas. Such a relatively high burden of illness may reflect the targeted nature of the CCT. Health problems can impose a substantial strain on household finances: the survey data indicate that, while households often do not have to pay for health care, for those that did the average cost households incurred at the last health care visit, including transport to reach the facility, was in the region of KZT 7,000 (about $47). This is around 7% of a typical household's monthly expenditure, and considerably more than the monthly transfer provided by BOTA.

Table 9.1 Burden of illness and disability

	Treatment					Estimated effect on bens (ATT)	N	
Burden of illness	Beneficiary	Non-beneficiary	All treatment	Control	TOTAL		Treatment	All
Households with at least one chronically ill member (%)[1]	31	37	33	32	32	-	1170	2289
Households with at least one member with a physical impairment (%)[2]	21	21	21	20	21	-	1170	2289

Source: Follow-up survey. Notes: (1) 'Chronically ill' includes all illnesses that persist for more than three months such as high blood pressure, high cholesterol and diabetes. (2) 'Physical impairments' include difficulty with mobility, sight, hearing or speech.

In terms of food security, the survey used a standard module to capture information on households' access to a full and varied diet and the use of household coping strategies such as eating less preferred foods, limiting portion size, skipping meals, or borrowing. Overall, very few households eligible for the CCT declare themselves to suffer from a lack of food. Only 7% of households reported at least one month in the previous year in which the household did not have a full and varied diet, and this proportion has been unaffected by the CCT. Among these households, the most commonly used coping strategies included eating less preferred foods (86%) and limiting portion size (42%). No households reported a night where either adults or children went to bed hungry in the last month. Such low levels of food insecurity confirm the observation in the baseline that poverty is not strongly associated with food insecurity in Kazakhstan (see Sedik *et al.*, 2011).

9.2 But some health indicators among children have improved

The CCT has had an unanticipated positive effect on some aspects of health care relating to the pre-school-age child. This includes a small but significant reduction in the rates of some illness, a slightly greater likelihood of households seeking professional advice to deal with certain illnesses if they occur, and increased expenditure on health care.

9.2.1 Rates of illness and responses to it

Pneumonia is the leading cause of death in children. Children with suspected pneumonia are those who had an illness with a cough with rapid or difficult breathing whose symptoms were not due to a problem in the chest or a blocked nose. The survey finds the prevalence of suspected pneumonia to be 2% of children overall which is broadly similar to the figure of 1.5% of all children 0-59

months reported by the 2007 MICS (UNICEF and the Agency of the Republic of Kazakhstan on Statistics). Suspected pneumonia is significantly less prevalent in areas where BOTA has been operating than in control areas, with the rate of children having suspected pneumonia in the previous month standing at 1% and 3% respectively (Table 9.2).

Table 9.2 Health status of children (%)

	Treatment					Estimated effect on bens (ATT)	N	
Indicators	Beneficiary	Non-beneficiary	All treatment	Control	TOTAL		Treatment	All
Children with suspected pneumonia	1	2	1*	3	2	-3*	1019	1993
Children with diarrhoea in the last month	6	7	6	7	6	-	1169	2287
Children with medical test expense in the last month	5	12	8*	3	6	9*	320	603
Children that have received a vitamin A supplement in the last 6 months (%)	21	24	22***	15	19	11***	2274	1161

Source: OPM follow-up survey.

Diarrhoea is the second leading cause of death among children under five worldwide. The survey asked if the child had diarrhoea in the month prior to the survey. Overall, the prevalence of diarrhoeal disease is found to be 6% which is higher than the national average of 1.8% reported by the 2006 MICS. This is likely to be a result of the targeted nature of the CCT towards poorer households, as diarrhoeal disease often varies by socio-economic status. Unlike the situation regarding pneumonia, the CCT has not resulted in any improvement in the rates of children reported to have diarrhoea.

The survey also indicates that 8% of eligible children in treatment areas had a medical test-related expense in the month prior to the survey, significantly more than the 3% of children in control areas.

We see, too, a marked increase in the proportion of households reporting that their child has received a vitamin A supplement in the last six months in treatment areas compared with control areas. Vitamin A deficiency is one the leading causes of preventable blindness in children and is known to compromise immune systems and increases the risk of disease and severe infections. It is estimated that 19% of children under six in Kazakhstan have sub-clinical Vitamin A deficiency and the estimated coverage of children receiving at least one dose of Vitamin A is unknown (The Micronutrient Initiative, no date, b). While about one in every five children had received at least one dose of Vitamin A in the last six months the rate in treatment areas, at 22%, is very significantly greater than in control areas (15%), influenced in particular by an improvement among beneficiaries of the CCT, whose usage of Vitamin A supplements is some 11 percentage points higher than would have been expected without the programme.

The finding that households may use a cash transfer to provide better health care for their child, even when doing so is not a conditionality of the programme, is consistent with studies of other similar programmes worldwide. Ecuador's state-run cash transfer, the *Bono de Desarrollo Humano*, has been found to improve children's nutritional status and haemoglobin levels (though to have no effect on households seeking professional health care) even though it carries no obligation for the household to meet conditions relating to health (Paxson and Schady, 2007).

9.2.2 Nutrition status of children

Worldwide, nearly 3.1 million children under five years old die every year from undernutrition – this accounts for 45% of total child deaths in 2011 (Lancet, 2013). Child nutrition represents the foundation of child health: when children have access to high quality and safe food, they are protected from repeated exposure to illness and are able to reach their growth and development potential.

We have seen above, however, that food security is not strongly associated with poverty in Kazakhstan, so the risk of undernutrition is quite low. Children eligible for the CCT already ate a regular and diverse diet at the time of the baseline survey, and the introduction of the transfer has had no impact on either the frequency or diversity of children's meals. Overall, children in both treatment and control areas continue to eat an average of three meals and three snacks per day and to have a diverse diet, consuming on average eight out of 12 food items on the day before the survey was conducted.

Detailed analysis of the types of food consumed by children reveals that a significantly higher proportion of children in beneficiary households (86%) consumed iron-rich food items such as organ meats, flesh meats or fish compared to children in control households (82%).

9.2.3 Disability

We would not expect a short-term transfer such as the CCT to have an immediate impact on long-term health outcomes such as disability; and indeed this is confirmed by the data. To measure the prevalence of disability amongst children in the survey, a 10 question screening module adopted from the UNICEF MICS was used to identify children with congenital and developmental disabilities. The follow-up survey found that 13% of children overall screened positive to at least one of the questions on disability (though a positive result for a single question out of 10 does not mean that the child has a disability). This finding remained consistent across CCT and control areas[13].

[13] The standard module has been used in many country contexts, but the interpretation of its results must be made carefully as its application in various countries often differs. The rate of 13% at follow-up, much lower than the baseline result, confirms that some of the questions in this module were misunderstood by respondents at baseline.

10 How households earn a living

What we found at baseline, before the start of the transfer

- Half of all households get at least some income from a member with a salaried job. If a member has a salary this usually forms the household's main income. Many households also earn money from casual jobs. About 60% of households receive a state transfer, such as a pension or child benefit, though this is more often a subsidiary income source rather than the main source.
- Just under half of members of eligible households aged 15+ are in the labour force, either working or looking for a job. The rest are not looking for work: they include students, pensioners and housewives. A minority of workers have seasonal jobs.
- Very few households (4%) that are eligible for the CCT have a consumption level that is low enough to be eligible for the state's Targeted Social Assistance; of those that do, even fewer receive it. But households do receive a variety of other benefits.
- Informal transfers are not very common. About one in every six households gets cash, clothes, food or other items from friends and family outside the household.

How we expected this to change

- We should see many more respondents in treatment areas reporting receiving financial support from NGOs.
- We expect that the CCT is unlikely to encourage people to give up work or reduce their hours because the value is too small and the duration is short-term. In any case levels of economic inactivity and unemployment are high.
- There is unlikely to be a change in the proportion of households receiving state benefits, though there may be some crowding-out of the means-tested child benefit because of the way it is calculated.

Findings from the impact evaluation

- As expected, many more households now say that cash or in-kind transfers are among their top three sources of income (77% in treatment areas vs. 67% in control areas).
- These transfers are a useful supplement to the main income but they have generally not supplanted the most important income source, which for over half of households continues to be a wage from formal salaried employment.
- The CCT has helped households to diversify the number of income streams they have: now far fewer households are reliant on a single source of income, and far more have three or more different income sources.
- We confirm that the CCT has not incentivised people to drop out of work. On the contrary we find that the transfer has incentivised carers to engage in paid employment (28% in treatment areas vs. 21% in control areas), possibly as a result of the time freed up from previously more demanding caring duties. However, most carers remain economically inactive.
- Out of carers who are in paid employment, those living in CCT areas are working about three hours per week more than those in control areas (43 vs. 40 hours).
- More than 50% of eligible households in treatment areas report receiving a transfer from an NGO in the last year, compared with a mere 1% in control areas.
- There has been no significant change, either positive or negative, in the proportion of people receiving government benefits as a result of the CCT. This suggests that participation in the CCT does not affect households' knowledge of, or attitude towards, other transfers. The percentage of households that receive the means-tested child benefit is too small to calculate whether the value of the benefit has declined because of the CCT, though there is some indication that for a few households the child benefit has reduced in importance.
- The CCT has not 'crowded out' the support that households receive from family and friends: households in treatment and control areas remain equally likely to receive informal transfers. The proportion that do so, at 22%, is slightly higher than at baseline for both groups, so there has been a general increase in this type of support unrelated to the BOTA programme.

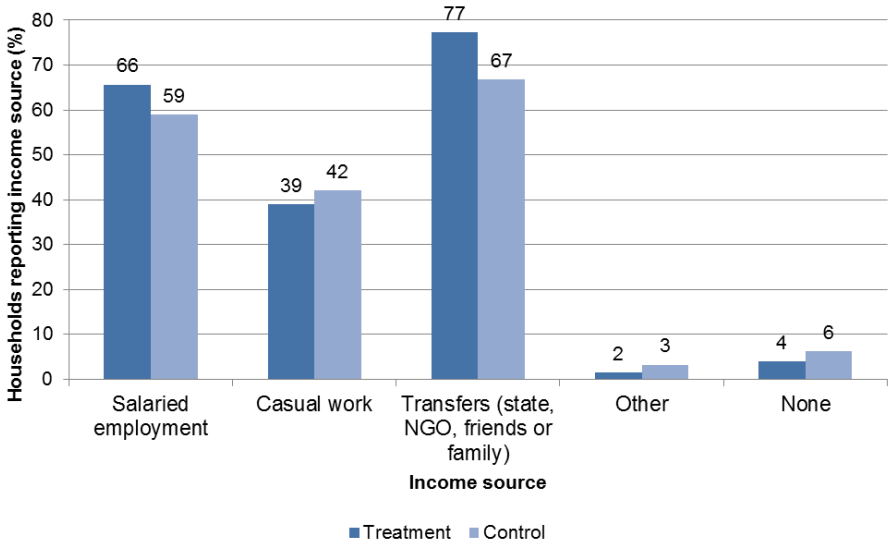
10.1 Sources of income[14]

Households can earn an income in many ways. Formal salaried employment is just one such strategy. Other sources of income include working on a casual basis for someone else, e.g. doing building work; generating one's own income e.g. by farming, selling goods or driving; or the receipt of cash or in-kind transfers from the state, non-government organisations or friends and relatives. Households may earn just a single type of income, but often will combine several, especially since the average household has three to four adults who may be in different types of employment. The sources and amounts earned may vary throughout the year.

10.1.1 Transfers are an increasingly important income source, though rarely the main one

As expected, the proportion of households that cite cash or in-kind transfers as being an important income source is now much higher in treatment areas than in control areas. Some 77% of households in treatment areas say that transfers are one of their top three sources of income, compared with 67% in control areas (Figure 10.1). This increase is largely driven by the BOTA beneficiaries in treatment areas. The types of transfer that households receive are discussed more in section 10.4 below.

Figure 10.1 Main income sources (% of households reporting source as one of their top three)

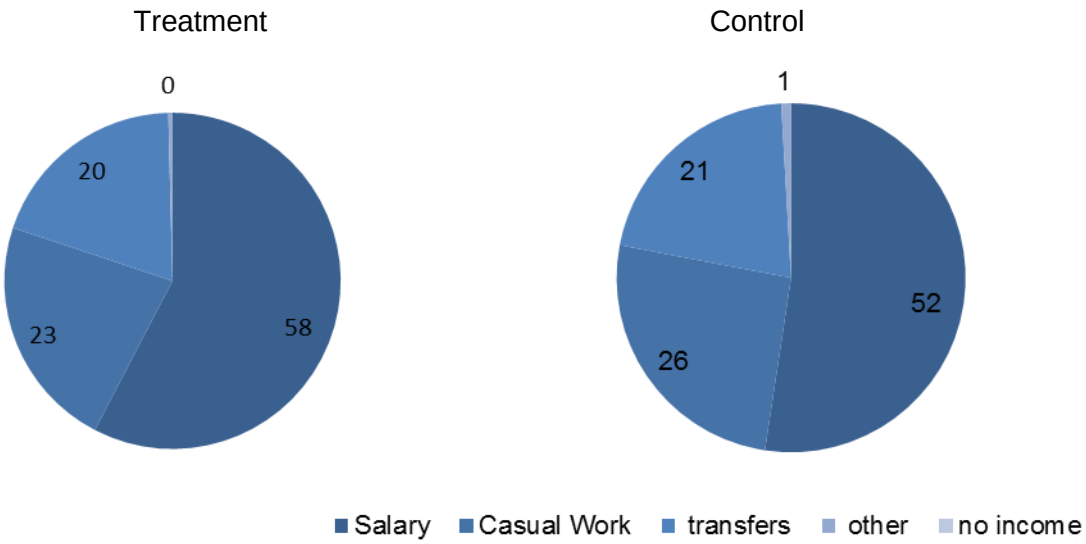


Source: OPM. Note: (1) 'Casual work' includes casual labour for someone else, or informal jobs that generate one's own income such as selling goods or driving. (2) 'Transfers' includes the CCT.

However, when we look at the proportion of households reporting transfers as their single most important income source, rather than one of their top three, there is almost no difference between treatment and control areas, at 20% and 21% of households respectively (Figure 10.2 below). This suggests that the BOTA transfer is a useful supplement to the main source of income, but has not become predominant over other sources. The BOTA transfer is not so substantial as to risk households becoming exclusively dependent on it for their livelihoods.

[14] The findings in this section are based on self-reported assessments of income and perceptions of employment status by the household.

Figure 10.2 Main income source (% of households reporting source as their most important



Source: OPM follow-up survey.

Interestingly, we also find a significant increase in the proportion of household in treatment areas who report formal salaried employment as one of their top three sources of income (66% versus 59% in control areas), an effects that gets to the magnitude of about 10 percentage points when looking at BOTA beneficiary households only. Although at the limit of conventional significance, we interpret the result below at the light of a possible effect on the labour supply of child carers.

10.1.2 Households have diversified their income sources

The CCT offers households an income stream that is additional to any earnings they were already receiving through other activities. This means that it helps households to *diversify* their income sources, which is useful for managing risk: reliance on a single type of income can be a risk if a shock occurs to the sole income source, such as illness of the breadwinner. We explored income diversification by asking households how many sources of income they had, and what proportion of their total earnings came from the main source.

We see a very significant shift in the number of income sources reported by beneficiary households. In treatment areas only one in every eight households is now reliant on a single source of income, while in control areas one in five households has a single income source (Table 10.1). Conversely, some 59% of households in treatment areas now have three or more income sources, compared with 42% in control areas.

This confirms the findings above that the CCT is often additional to, rather than a substitute for, existing income streams. Moreover, it is interesting to note from the panel analysis that the majority of BOTA beneficiary households who reported only one source of income at baseline, now report three or more sources, indicating that not only is the transfer itself an important source of income, but that beneficiary households have also engaged in some further income diversification activities as a result of the programme.

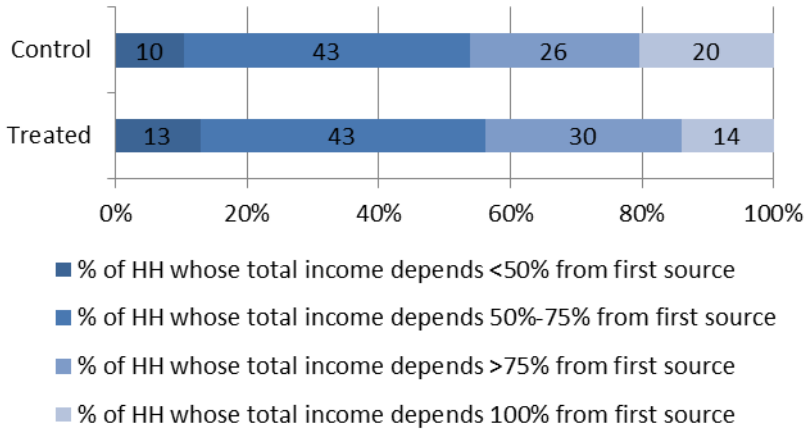
Table 10.1 Number of income sources

Number of income sources	Treatment					Estimated effect on bens (ATT)	N	
	Beneficiary	Non-beneficiary	All treatment	Control	TOTAL		Treatment	All
1	7***	21	12***	20	16	-12***	1170	2289
2	24***	37	29***	38	33	-14***	1170	2289
3 or more	69***	42	59***	43	52	26***	1170	2289

Source: OPM follow-up survey.

As a result of the above, we find confirmation of households' reduced reliance on the main source of income in the fact that, among those in treatment areas, 44% report getting three-quarters or more of their income from a single source, which is slightly lower than in control areas (46%) (Figure 10.3).

Figure 10.3 Main income source as proportion of total income (% of households)



Source: OPM follow-up survey.

10.2 Patterns of employment

We analysed trends in employment among the adult members of households containing pre-school age children[15]. Some of these members are 'economically inactive', i.e. they are neither working nor looking for a job. This category might include students, pensioners or housewives, among others. Other members are economically active, meaning that they consider themselves to be in the labour force. They may be in formal salaried employment, or carry out casual work of the type discussed in section 10.1 above; or they may be unemployed but actively seeking work.

Amongst main earners who are in paid employment, about a quarter have formal jobs in the public sector e.g. teachers, doctors or civil servants; a quarter are skilled labourers such as builders or tractor drivers; another quarter are unqualified labourers; and a quarter have other private sector jobs such as shop workers, security guards and drivers. Among those who work for themselves, nearly half are farmers; a quarter are drivers and a quarter have other occupations.

[15] In line with international standards the questions about economic activity were asked for all household members aged 15+.

10.2.1 No change in the proportion of people in or out of work

In both treatment and control areas just over half of all adults (older than 15)—53%—are economically inactive, neither working nor seeking work (Table 10.2). Most of these are housewives or pensioners, while about 18% are still at school or in higher education, and 4% have a disability.

Table 10.2 Economic activity status (% of adults in households eligible for the CCT)

	Treatment					Estimated effect on bens (ATT)	N	
Economic activity status	Beneficiary	Non-beneficiary	All treatment	Control	TOTAL		Treatment	All
Economically active	46	48	47	47	47	-	3874	7523
Paid employment only	34	34	34	32	33	-	3873	7521
Working for self only	6	7	7*	10	8	-5**	3844	7476
Both paid and working for self	2	1	2	2	2	-	3874	7523
Unemployed	4*	5	4	4	4	-	3874	7523
Economically inactive	54	51	53	53	53	-	3874	7523
All	**100**	**100**	**100**	**100**	**100**			

Source: OPM follow-up survey.

The fact that these proportions are similar in both treatment and control areas means that the BOTA CCT programme has not encouraged people that were previously economically inactive to start looking for a job. This is in line with what was expected, as at this stage we are looking into the economic activities of all household members, including children 15-17 and pensioners, a large group of individuals that the BOTA transfer has not been designed to affect. The transfer is not sufficiently large or long-term to incentivise current income earners to drop out of work, or change the behaviour of young adolescents or pensioners who are not seeking employment. But when we confine our analysis to the economic activity status specifically of the carer of the pre-school-age child, rather than all members of the household, we begin to detect that BOTA has had an impact on overall levels of economic activity and inactivity.

For the 47% of adults that are in the labour force, we find a small shift in the type of work done. Adult members of BOTA beneficiary households are now 5 percentage points less likely to work for themselves, with a tendency to be more engaged on paid employment, either formally or informally[16]. We suspect that this effect is driven by a potential change in the type of jobs that carers do, a hypothesis that we analyse next.

10.3 Employment of the child's main carer

BOTA appears to have had a significant effect on the labour supply of primary carers. An effect of the CCT seems to be a significant increase in the proportion of the child's main carers who are in paid employment, working outside the household for a third party, either formally or informally:

[16] The questionnaire did not collect information on the specific work conducted by every household member so we do not distinguish between formal and informal work for other people, i.e. formal salaried employment and casual paid work. Both are classified as 'paid employment'. Nor do we distinguish between occupations.

some 28% of main carers in treatment areas are in paid employment, compared with 21% in control areas (Table 10.3). It is important to note that despite this effect, the large majority of carers (67%) remain economically inactive, as carers of working age are often still looking after other young children at home.

Table 10.3 Economic activity status (% of main carers)

	Treatment					Estimated effect on bens (ATT)	N	
Economic activity status	**Beneficiary**	**Non-beneficiary**	**All treatment**	**Control**	**TOTAL**		**Treatment**	**All**
Economically active							1157	2260
Paid employment only	26	29	28**	21	25	10**	1157	2260
Working for self only	2	4	3*	5	4	-4*	1157	2260
Both paid employment and working for self	1	1	1	1	1	-	1157	2260
Unemployed	3**	5	4	3	4	-	1157	2260
Economically inactive	68**	60	65	69	67	-	1157	2260
All	**100**	**100**	**100**	**100**	**100**			

Source: OPM follow-up survey.

The increase in carers who have paid employment can come from two sources: it can be associated either with carers newly moving into the labour market, or with carers who were already economically active opting for a different type of work. We have investigated these possibilities not only by analysing data on the full set of carers from the follow-up survey, but also by tracking the changes in employment status of the main carers from our panel who were interviewed at both baseline and follow-up. These two types of analysis confirm that both alternatives have contributed to the change in employment status that we see among carers.

Table 10.3 shows the mild indication in the data of the first of these (an increased desire for carers to enter the workforce as a result of the transfer): in treatment areas 35% of main carers now consider themselves to be in the labour force, either working or unemployed and looking for work, compared with 31% in control areas[17]. This is confirmed by the panel analysis, where we see individuals who were declared to be economically inactive at the baseline in 2011, who had come into the market to take up or look for work opportunities by the time of the follow-up in 2012.

As for the second possibility, we also find evidence of substitution towards paid work and away from self-employment, though this type of work remains extremely rare among carers, at 3% in treatment areas and 5% in control areas[18]. It suggests that there has been a change in the type of occupation for some of the small proportion of carers who were already in the labour force before receiving the BOTA transfer. One interpretation could be that while self-employment was more compatible with caring duties—for example if performed from home—carers can now opt for (possibly better paid) jobs outside the house, while children are at pre-school. Interestingly, there is

[17] Significant only for the unweighted ATT model.

[18] We use 'self-employment' here in the sense of generating one's own income, such as growing and selling produce, not in the formal sense of being a formally registered business.

also a significant shift of preferences within paid labour from seasonal to all-year-long employment arrangements.

This observed change in labour supply patterns by main carers is quite surprising given the short time frame we are considering and the size of the transfer. One possibility is that it could be driven by the fact that about a quarter of children are indicated as having a different main carer to the one they had at the baseline survey. This could account for the effect if younger and already labour active members are now indicated as carers. We can rule out this hypothesis on the basis of further modelling work: after controlling for the age and gender of the carer the results hold both for the ITT and for the ATT models.

We can conclude that the BOTA programme has contributed to carers being more economically active, and particularly in paid work for a third party contractor (either formal or informal). This is consistent with the previous findings that indicated some income diversification beyond the fact of receiving the transfer itself, and an increase in the proportion of households reporting salaried employment as an important source of income.

Moreover, our analysis shows that carers who work are likely to be engaged in such economic activities for roughly three hours per week more as a result of the BOTA programme (43 hours in treatment areas vs. 40 hours in control areas): an unexpected result that we consider significant from a policy perspective.

Remember that these results must be read in a context where the proportion of people who are defined as being economically inactive vs. active has not changed overall. We believe that this is due to the fact that the effect on the increase in labour supply has been restricted to carers only, and its significance is diluted when looking at the whole adult population.

The findings here make an interesting comparison to those of other CCTs elsewhere. A recent study of the effect of CCTs on the labour supply of children's mothers in rural Honduras, Nicaragua and Mexico found that Mexico's 'PROGRESA' CCT had a slight tendency to *reduce* the probability of mothers being employed, while the effect on maternal labour supply in Honduras and Nicaragua was negligible (Novella *et al.*, 2012)[19].

10.4 Institutional transfers

We saw in section 10.1 above that many more households in CCT treatment areas are citing transfers as an important income source compared with households in control areas. Exploring this further, we find that, indeed, the greatest increase is found in their receipt of non-government transfers. The amount of households receiving government transfers such as child benefit or a pension has not increased.

10.4.1 Many households are receiving the CCT

In treatment areas the proportion of BOTA eligible households that say they received a transfer from a non-government source during the previous year has risen to 55%, compared with only 1% in control areas. The share of households in treatment areas that receive money from an NGO is not 100% for two reasons. First, not all eligible households in treatment areas have enrolled onto the CCT[20]. Second, among those who have enrolled, not all have received money from BOTA:

[19] However, that study also shows that, when taking the employment of all adults in the household into account, the CCT does not have a significant impact on labour supply: this matches what we have found for BOTA's CCT.

[20] See Oxford Policy Management (2012c) for the analysis of the take-up of the CCT by eligible households.

some may have only recently enrolled, or live in areas where they are unable to meet the conditions for the programme owing to an absence of pre-schools, which renders their participation dormant. About 88% of those who are recorded as being BOTA beneficiaries state that they have received income from a non-government source.

10.4.2 Access to state benefits is mostly unchanged

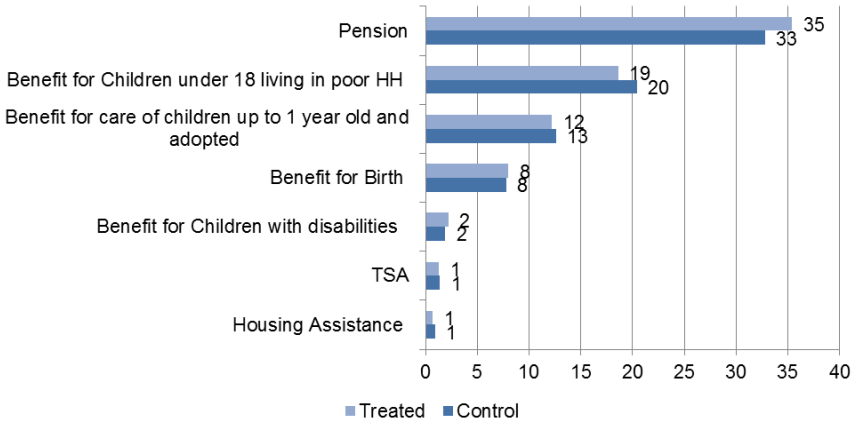
The range of state benefits and allowances in Kazakhstan is quite wide, as is typical of countries that inherited a comprehensive social welfare system after the end of the Soviet Union. It includes both benefits targeted at categories of individuals such as children, the elderly and people with disabilities, and benefits targeted at households such as the targeted social assistance for destitute households. About two-thirds of BOTA eligible households (68%) receive some kind of state transfer.

International experience suggests that introducing a new cash transfer can have direct or indirect effects on households' receipt of other transfers (the so called crowding-out effect). On the one hand, it can have a direct negative effect on the amount of money received from other sources, if those other benefits are means-tested and if the new transfer is counted as an income source. The household will be deemed to be better off, and may receive less of the means-tested transfer. On the other hand, a new transfer can indirectly sway households' attitudes towards, and knowledge of, other transfers. The household may learn from programme staff about the availability of other benefits, or may become more comfortable about applying for them.

In Kazakhstan the state categorical benefits for the elderly etc. are not means-tested, so we would not expect their value to change as a result of the CCT. However, state benefits for vulnerable households are means-tested; this includes the state benefit for children under 18 years old in poor households (*gosudarstvennoe posobie detey do 18 let*). We might expect the CCT to reduce the value of these means-tested benefits for beneficiary households because the CCT is linked to the household's tax number and counts towards its overall income. The exception is the Targeted Social Assistance (TSA) benefit for the very poorest, for which BOTA have an agreement with the government that the CCT will be disregarded when assessing household income.

We find that the CCT has had no significant impact on the share of households reporting receipt of the various state transfers (Figure 10.4).

Figure 10.4 Households receiving selected transfers (%)



Source: OPM follow up survey.

The most commonly reported state transfer is the old-age pension, received by around a third of the households. Besides this, many households receive benefits targeted at children, which is consistent with the fact that the evaluation interviews only households with at least one child of pre-school age. About one in five of the households represented by the survey population receive the benefit for children under the age of 18 living in poor households, while around one in eight receives the benefit for care of children up to 1 year.

The share of eligible households reporting that they receive the TSA, at 1%, has also not changed between treatment and control areas. This proportion remains low in comparison to the 4% of surveyed households whose consumption level indicates that they may be eligible for the benefit.

The fact that the take-up of state benefits is unchanged reflects the fact that, since BOTA's volunteers are not currently part of a state-run structure, it is not within their remit to actively inform beneficiaries about how to access state benefits. It also suggests that receiving the CCT has not altered households' attitudes towards applying for state benefits.

However, we find that the value of the means-tested benefits may have reduced slightly, among those that receive them. There is a small but significant reduction of around 5% in the proportion of households that say that the means-tested transfer for children under 18 is the largest benefit they receive, at 15% in treatment areas compared with 20% in control areas, with an estimated reduction of 7 percentage points for BOTA beneficiaries. Since we do not find that households have stopped receiving the transfer altogether, this implies that the size of the transfer may have diminished. We cannot measure the size of the reduction because the number of households who receive this benefit is too small to detect a significant change in its value. Nonetheless the change is consistent with BOTA's expectation that the CCT causes a reduction in the value of some means-tested state benefits.

10.5 Informal transfers

Households in CCT areas have not experienced a reduction in the amount of financial and non-financial support they get from family and friends. Kazakhstan does not in any case have a strong culture of giving and receiving informal transfers as in other countries in the region. About 19% of eligible households have received support from their acquaintances in the last year (22% amongst BOTA beneficiaries), while 6% have given support to others. Similar levels are found in the control communities. There seems to be an overall increase in the proportion of eligible households that receive informal transfers and a decrease in the proportion that give them when one compares the baseline survey of 2011 with the follow-up survey of 2012. However, this effect is independent of the CCT and may represent a general deterioration in the economic situation of eligible households.

11 Consumption and savings

What we found at baseline, before the start of the transfer

- The average eligible household has a monthly consumption of about KZT 100,000 (about $680), of which almost two-thirds (62%) is spent on food.
- The average consumption per equivalent adult is about KZT 36,000. So the value of the CCT, at around KZT 3,300 per month for ECD beneficiaries in 2011, is enough to increase the consumption of one adult by about 10%.
- Hardly any households (about 5%) report having any savings. For those that do, it is rare that they keep them in a formal institution such as a bank.
- Over half of eligible households have debts, often to shops and markets.

How we expected this to change

- We expect household consumption to increase in treatment areas by roughly the value of the transfer. We may see a rise in expenditure on education, although many pre-schools are free so for some households the transfer may have been spent on items other than education.
- We do not expect to see an increase in the use of financial services, particularly because BOTA does not allow a household's CCT bank account to be used for non-CCT income.
- We might expect to see a reduction in household debt because households have a smoother income throughout the year.

Findings from the impact evaluation

- Contrary to our expectations we do not find any significant effect of the BOTA CCT programme on beneficiary households' poverty and welfare level (measured by consumption expenditure). Average monthly household consumption is broadly similar to the baseline, at around KZT 93,400.
- This is not too surprising, given that the transfer represents only 4% of the mean total household consumption. Moreover the region of the study seems to have been affected by a worsening economic climate, which has led households to an impoverishment in real terms across the board
- The CCT has only marginally increased beneficiary households ability to save, and only by the means of more frequent informal savings arrangements with family and friends
- The CCT has instead contributed to a significant increase in the amount of households who become indebted as a mechanism to maintain consumption levels or (to a lesser extent) invest in durables. This is most likely the result of the transfer acting as a reliable "collateral" for lenders.

11.1 How much households spend

11.1.1 The CCT has not increased households' consumption

Since the CCT is providing money for poor households we might predict that households in treatment areas will consume more than those in control areas. Contrary to expectations, though, the impact evaluation finds no significant effect on household consumption. This may be because the value of the transfer is too small to be discernible in comparison with the overall consumption of the household. It also means that there has been no 'multiplier effect' associated with the increased labour supply by the main carers that we have discussed in section 10.

We can measure consumption by looking at the total consumption expenditure for the household, or the amount per person (*per capita*), or the amount per 'equivalent adult', which takes into account the fact that young children consume less than adults. The last of these is our preferred measure to compare consumption since it gives the best picture of how well the household's consumption matches its needs. The average household size and the number of adults and children is the same in treatment and control areas, so all these results tell the same story in terms of the impact of the CCT although their values are different.

Total household consumption in both treatment and control areas is around KZT 93,000–94,000 a month. This means that in an average household in treated areas each household member consumes KZT 15,400 a month while in control areas they consume KZT 16,100. Mean monthly consumption per adult equivalent is KZT 31,412 for the average treated household.

Table 11.1 Mean monthly consumption per household (KZT)

	Treatment					Estimated effect on bens (ATT)	N	
Consumption measure	Beneficiary	Non-beneficiary	All treatment	**Control**	**TOTAL**		**Treatment**	**All**
Total consumption	87622***	101565	92888	93976	93388	-	1170	2289
Per capita consumption	14655***	16662	15413	16055	15708	-	1170	2289
Per adult equivalent consumption	30021***	33704	31412	32553	31937	-	1170	2289
Per adult equivalent (national statistical agency scale)	24616***	28161	25955	26459	26187	-	1170	2289

Source: OPM follow-up survey. Note: Values are expressed in 2011 prices to be comparable to the baseline.

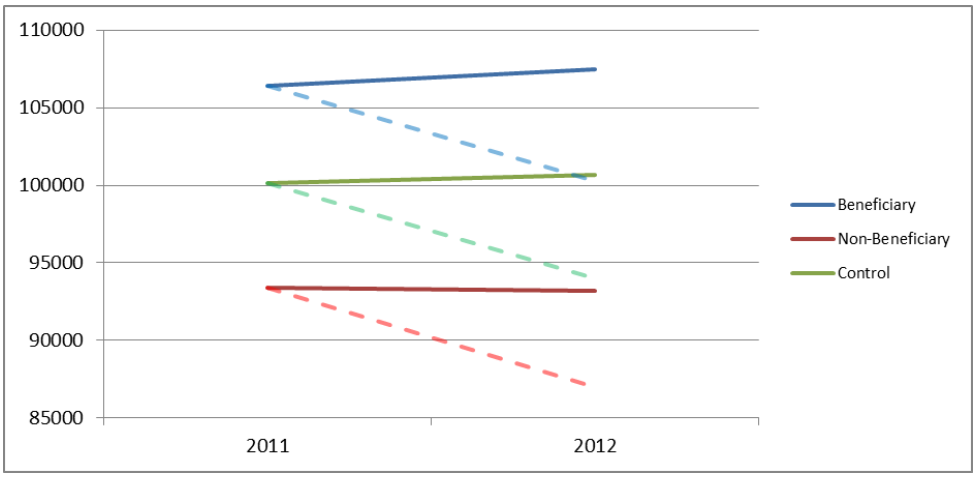
Among eligible households living in treatment areas, those that receive the CCT have significantly lower consumption than those households that are not enrolled on the programme. This is consistent with the findings at baseline. It suggests that, from among those eligible for the CCT, BOTA may be enrolling households that are slightly worse off in consumption terms.

Still, with a transfer value of KZT 3,600 per month, BOTA's contribution to the average total household consumption for each beneficiary in the household is less than 4% of the average total consumption of eligible households. This is too small an effect to be detected with the power of the sample for this evaluation. In fact a 95% confidence interval around the mean of total consumption for eligible households ranges from KZT 98,000 to KZT 102,000 (at prices of 2012), the range of which is already more than the monthly value of the transfer.

It is more surprising not to observe an improvement in the levels of consumption expenditure as a result of what we have seen on the labour dynamics, namely that there has been no reduction in labour supply and that carers have become more active in paid employment. The issue requires further investigation, but at a first glance it is possible to hypothesise that: (a) part of the additional resources has been used to add to informal savings (see below); (b) part has been used to repay new debts, an area that is not necessarily reported as consumption by respondent (see below); or (c) the increased labour supply by carers has not (yet) translated into increased income that is noticeable when looking at the whole household economy.

Another interesting element to put these results in context is that overall the real consumption levels estimated at follow-up are lower than those found in the baseline in both treatment and control households. The figure below shows that while consumption expenditure has been constant over time for all three groups in the sample in nominal terms (solid line), there has been a remarkable drop in real purchasing power for all the groups (dashed line). The BOTA transfer has not been sufficient to counter such drop in real consumption, that is due to a general deterioration of the economy in the region of the study (see below).

Figure 11.1 Trend of real and nominal total household consumption expenditure



Source: OPM follow-up survey.

11.1.2 Nor has the CCT affected the pattern of expenditure

The proportion of consumption that is devoted to food is quite high in both treatment and control areas, at around 57%. As mentioned at the baseline this is due to the fact that the sample contains only households who are below the threshold for the proxy means test and therefore poorer. At baseline the food share of consumption was even higher, at 62% overall. However, the reduction should not be read as suggestive of a reduction in poverty level of the sample. Two explanations account for the observed reduction in the proportion of consumption spent on food between the two surveys in face of a poverty increase:

1. In 2012 non-food inflation was higher than food inflation. We see that the increase of overall inflation in 2012 with respect to 2011 is in each month higher than the increase in food inflation except January and February. This suggests that food share may have decreased simply because non-food items have become more expensive in relative terms.
2. Seasonality in prices over the year: food prices tend to be higher outside the agricultural season. At baseline a higher percentage of interviews were conducted in November and December when food prices are higher.

The requirement for beneficiary households to send their pre-school-age children to a pre-school facility might be expected to lead to higher expenditure on education in treatment areas than in control areas. But we do not find evidence of this. One reason may be that many of the sampled children, now aged five or six, attend zero class which is free. The overall patterns of expenditure are the same for treatment and control areas which means that households who receive the CCT are not substantially changing the mix of items that they buy.

11.2 How households compare to the national poverty line

11.2.1 The CCT has not affected the proportion of households that are poor

The Government of Kazakhstan revises its estimate of the minimum level of consumption required to meet food and non-food needs—the 'subsistence minimum'—every year. In 2012 it stood at just under KZT 17,900. At this time some 64% of households eligible for the CCT were found to live below the subsistence minimum (Table 11.2). This is an increase compared with the 59% who were found to be below the subsistence minimum at baseline, which suggests that consumption among eligible households has not risen as fast as the government's estimate of the amount of expenditure that households need for their basic food and non-food needs.

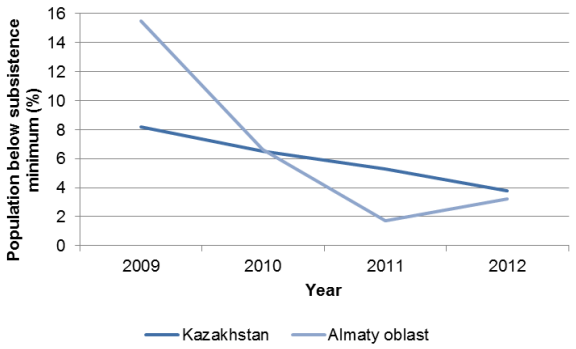
The increase in the percentage of individuals living under the subsistence minimum between the baseline and follow-up surveys is not related to the presence of the BOTA programme but is a generalised phenomenon characterising both treatment and control areas. Our finding of an increase in poverty levels in Almaty oblast is supported by two statistical sources:

1. The Kazakhstan statistical office estimates of poverty for 2011 and 2012 show an increase in the proportion of people in Almaty oblast living below the subsistence minimum from 1.7% to 3.2%, against the national trend (Figure 11.2)
2. A report by the Asian Development Bank in 2013 highlighted that GDP growth in Kazakhstan slowed down from 7.3% in 2010 and 7.5% in 2011 to 5% in 2012. The sector that suffered the most was the agricultural sector, whose contribution fell to the lowest levels in 15 years. Their report comments, that,

   > [In 2012] Agriculture contracted by 17.8%, mostly from poor harvests. Severe drought almost halved grain output from the record high harvest in 2011, despite major investments and producer subsidies. (Asian Development Bank, 2013)

   This sector is particularly relevant for households eligible for the CCT: about a third of eligible households have at least one member working in seasonal employment, which is often agricultural.

Figure 11.2 Poverty in Kazakhstan and Almaty oblast, 2009–12 (% of population)



Source: National Statistical Office of Kazakhstan.

The government also measures the proportion of people below the 'extreme poverty' line, defined as 40% of the subsistence minimum. This is the threshold for eligibility for the TSA benefit. We noted in section 10.4.2 above that the share of households eligible for the CCT whose consumption falls below this level is unchanged from the baseline, at about 4%. In treatment areas the proportion of households who are extremely poor is significantly higher among those who joined the CCT than those that are eligible but did not join (Table 11.2). This confirms the findings from the targeting assessment that, among eligible households, the very poorest are more likely to participate in the CCT (Oxford Policy Management, 2011c).

Table 11.2 Poverty rate among individuals in eligible households (% of individuals)

Indicator	Treatment					N	
	Beneficiary	Non-beneficiary	All treatment	Control	TOTAL	Treatment	All
Below subsistence minimum	70***	57	65	63	64	1170	2289
Less than 40% of subsistence minimum	5***	2	4	4	4	1170	2289

Source: OPM follow-up survey, and HBS 2009. Note: (1) Nominal data from follow-up survey and HBS are adjusted by inflation as calculated by the National Statistical Agency of Kazakhstan. Moreover, we excluded rent and durables in constructing HBS consumption aggregates.

The proportion of people shown to be poor or extremely poor is quite high because Almaty oblast has one of the highest poverty levels in the country: this is why it was selected as a priority region for the CCT. Moreover, rural areas of the oblast are poorer than the urban areas. The proportion of individuals identified here as being extremely poor still differs considerably from the government's own estimate of the extreme poverty rate in rural Almaty oblast, which stood at 0.4% in mid-2011 and at 0.6% in mid-2012 (Agency of Statistics of the Republic of Kazakhstan, 2013). The reasons for this that were cited in the baseline survey remain relevant in the follow-up survey:

1. The survey calculates poverty among households eligible for the CCT, i.e. that have a consumption level that is below the threshold for the proxy means test. They are therefore already known to be poorer than across the region as a whole.
2. The definition of 'rural' in the survey is narrower than that used by the State Statistical Agency because it excludes rural okrugs containing large settlements. This, too, is likely to increase the rate of individuals classified as poor.

3. The figures for consumption in the survey do not include an imputed value for rent or durable goods. If such an imputation were to be added to the figures it is likely that a proportion of the sample households would be considered to have a consumption level that is above the extreme poverty line.
4. The equivalence scale used by the State Statistical Agency for dividing up a household's consumption across its individual members results in consumption estimates that are much higher than those obtained by using the *per capita* measure that we have used here. This means that far fewer individuals would fall below the extreme poverty line compared with the *per capita* measure.

The fact that the poverty headcount and extreme poverty headcount does not differ between treatment and control areas means that the size of the CCT, and any associated multiplier effects, have not been big enough to lift households out of poverty. This fits with the findings in section 11.1 that the transfer does not have a discernible impact on household consumption.

11.2.2 The CCT has not closed the poverty gap

For all individuals who are below the subsistence minimum, and therefore classified as poor, one can identify how far their consumption falls short of the minimum, and thus how much extra consumption expenditure they would require each month to bring them out of poverty. This is called the poverty gap and it measures the *depth of poverty*. If we square the poverty gap we can measure the *severity of poverty*: this gives the highest weighting to the households that are furthest below the poverty line, which identifies inequality amongst the poor.

Among eligible households in treatment areas who are poor the average poverty gap is 19%, while the severity of poverty is consistently around 7%. This implies that, on average, a transfer of 19% of the poverty line per person is required to move that person above the poverty line. The figure is higher for BOTA beneficiaries (respectively 22% and 9%), but there is no evidence that the CCT has caused households to become poorer, nor to become richer.

11.3 Savings and credit

11.3.1 Formal saving has not increased

By opening a bank account for every household that is a beneficiary of the CCT, BOTA has introduced households to a form of financial service that almost none had previously used. Each is given a bank card that they use to withdraw the transfer from a cash machine. As long as the household remains in the CCT the transaction fees on the account are paid by BOTA; even after exiting the programme the household can continue to use the account, though they must then bear any related costs themselves.

In other circumstances the existence of the account might encourage households to save more regularly in formal institutions. However, in the case of BOTA, beneficiaries are instructed not to use the bank account for any savings other than the CCT while in the programme, so that staff can check the balance to ensure that households have been paid the right amount. This contrasts with other schemes that disburse cash transfers through a bank account such as the Child Support Grant in South Africa or many of the CCTs in Latin America, where recipients are free to add their own savings to the account. As expected, then, the impact evaluation finds that the CCT has had no impact on the proportion of households that now report using a formal savings system. Indeed, households in treatment areas are only marginally more likely than those in control areas to report having any savings at all (6% vs. 4%, not statistically significant), and among those that do save, households in treatment areas are significantly more likely to keep their money informally with

friends or family. In fact, we find that the BOTA programme may have caused a small increase in the proportion of households who have savings kept by family or friends (2.5 percentage points), possibly as a result of the transfer not being immediately spent by the recipient but kept in the form of precautionary savings.

As for more formal saving mechanisms, the fact that so few households in treatment areas report having any savings, even though many of them receive the CCT, shows that they may not perceive it as their own 'savings' if they have funds from the transfer stored on their bank card. We know from the qualitative research that some households store money on the card for a few months and then buy larger purchases, so it is possible that this level has been underreported.

BOTA staff suggest that the group of CCT beneficiaries whose attitudes towards financial services might best be influenced by the programme are the teenage school-leavers, the category that do not form part of this impact evaluation because they were added after the study had started. Feedback to BOTA indicates that for some people in this group the possession of a bank card is a status symbol and a marker of responsibility equivalent to that displayed by formal salaried workers.

11.3.2 Debt has increased in frequency and converged to a medium size

The international literature is of mixed opinion as to whether cash transfers will reduce household indebtedness, by smoothing consumption, or increase it by relaxing credit constraints. The first theoretical perspective, that,

> 'Modest but regular and reliable flows of income from cash transfers help households to smooth consumption, enabling them to sustain spending on food, schooling and healthcare in lean periods, without the need to sell assets or take on debt' (DFID, 2011, p.3)

reflects the experience of some programmes such as for humanitarian relief in Somalia (Ali *et al.*, 2005). The alternative, that, 'the transfers are likely used as collateral to increase loan size', is a pattern that is found empirically among cash transfer schemes in Namibia, South Africa and Mexico among others (Angelucci, 2011, p.14; Devereux and Pelham, 2005),

We had expected debt among CCT recipients to decline in accordance with the first of these hypotheses, as the qualitative research revealed that households experienced difficulties with consumption smoothing, experiencing long periods over winter with no income. The regularity of the transfer could help in this regard. Contrary to expectations, though, the opposite has occurred. Households in treatment areas are significantly more likely to have debt, and more of it. In the impact evaluation we find that 65% of households in treatment areas currently have debt, compared with 59% in control areas (Table 11.3). For both groups the figure is higher than at baseline, when it stood at 56%. We estimate that about 10 percentage points more of BOTA beneficiaries have incurred debts as a result of the programme.

This is a remarkable finding. The general increase in borrowing may be a result of a deterioration in economic conditions, as highlighted by the increase in poverty levels. But the additional borrowing due to the CCT suggests that creditors may feel reassured about lending to households whom they know to have a reliable income stream, or that it is used as a collateral. Further analysis will have to shed light on whether this additional indebtedness is associated with higher expenditure on loan repayments.

Among households that borrow money, those in treatment areas are now more likely than control households to be borrowing from banks. However, informal credit from shops is confirmed as the

most important source of borrowing for beneficiaries in treatment areas, and for CCT beneficiaries in particular.

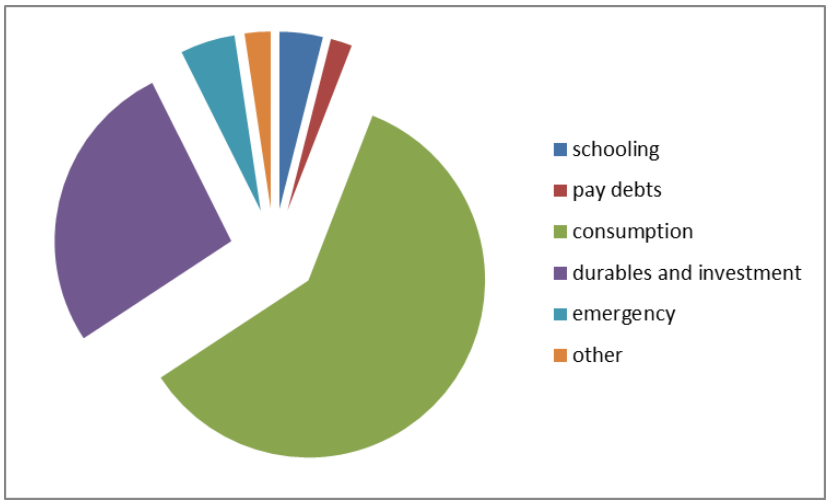
Table 11.3 Household debt, by source of loan (% of all households)

Indicator	Treatment			Control	TOTAL	Estimated effect on bens (ATT)	N	
	Beneficiary	Non-beneficiary	All treatment				Treatment	All
Bank	21	24	22	18	20	-	1159	2271
Employer	0	1	0	0	0	-	1159	2271
Microlender	0	0	0	0	0	-	1159	2271
Informal ('loan shark')	1	0	1	2	1	-	1159	2271
Family / friends	5**	9	6	6	6	-	1159	2271
Shop / market	56***	34	48	45	46	-	1159	2271
Other	0	0	0	0	0	-	1159	2271
Any source[1]	**70*** **	**56**	**65***	**59**	**62**	**10***	**1159**	**2271**

Source: OPM follow-up survey. Note: (1) The total of the constituent sources is more than the proportion shown on the 'Any source' line because some households have debts to several different sources.

As for the nature of the loans obtained Figure 11.3 shows that most indebted households (60%) seek debt as a way to fund current consumption (buying food, groceries or clothes, paying for utilities), while less than a third (27%) employ loans as a way to invest in a more productive way (buying durables, the set-up a new business or house refurbishment). There are no differences in this pattern between treatment and control areas.

Figure 11.3 Use of loans



Source: OPM follow-up survey

Regarding the size of current household debts, we detect a tendency for the size of loans to converge to a value between KZT 10,000 and KZT 20,000 KZT ($68 to $136) for BOTA beneficiaries. This comes as a combination of both households more heavily indebted reducing their exposure, and of households less indebted increasing the amount of their loans. As was the case at baseline, households are not generally positive about their ability to borrow money at short notice (within one week).

12 Findings on other BOTA beneficiary categories

What we found at baseline

- In Kazakhstan the rate of pregnant women attending antenatal care is more or less 100%, including among women eligible for the CCT. It is therefore impossible for BOTA to improve this outcome. Women report attending antenatal care around 10 times during pregnancy.
- About two-thirds of surveyed women reported having anaemia during pregnancy.
- The knowledge test to pregnant and lactating women reflected these findings: women were better informed about good antenatal care practices than about anaemia prevention.

How we expected this to change

- Since BOTA has provided training in good practice for pregnancy and for home-based care of children with disabilities we would expect to see test scores improve for both groups.
- We may also see better practices for pregnant women, such as earlier registration of pregnancy and reduced rates of anaemia.

Findings from the impact evaluation

- We observe no change in antenatal care practices as a result of BOTA. As at baseline, pregnant women almost without exception attend antenatal appointments, and with about the same frequency as before. Women in treatment areas do not report the date of their first visit to be different to that of women in control areas.
- Some two-thirds of women still report being anaemic during their pregnancy, but those in areas where BOTA is operating are much more likely to have taken iron tables than those in control areas.
- The value of the CCT for pregnant and lactating women seems to be enough to cover pregnancy-related expenses.
- Scores on the knowledge test for pregnant and lactating women are not as high as one might expect, given that BOTA volunteers have offered training in the subjects tested. BOTA beneficiaries have become more aware of good nutrition to prevent anaemia but in other respects are not better informed than their peers.
- Families of children with disabilities have a very variable knowledge of good home-based care for their child.

12.1 Pregnant and lactating women[21]

As the broader eligibility criteria of the CCT includes pregnant and lactating women (women with children up to six months old), this section reports on various dimensions of maternal health as collected in the survey. The primary sample of the survey was determined by eligibility for the ECD benefit, so data on pregnant and lactating women were only collected from households eligible for the ECD benefit with a pregnant or recently pregnant woman. Some 18% of the overall sample included at least one member who was pregnant or had recently given birth.

12.1.1 No change in antenatal care and delivery

Antenatal care is globally recognised as an important opportunity to reach pregnant women with a number of interventions vital to their health and that of their infants. Such interventions include appropriate maternal nutrition and micro-nutrients, information about danger signs of labour and delivery as well as the importance of delivering with the assistance of a skilled health care provider. It can also provide an entry point for advice on other interventions such as sexually transmitted infections, HIV prevention and care and family planning.

Coverage of antenatal care was already high in Kazakhstan even before the introduction of the CCT. It would be virtually impossible for BOTA to improve on the 99% rate of attendance at antenatal care among pregnant women. Our survey confirms this high rate observed in other national surveys, finding that 99% of women had received antenatal care at least once during pregnancy. The vast majority of women had sought antenatal care from either a doctor or nurse where nearly all women had received blood testing, blood pressure measurement, urine testing and weight measurement. The average number of antenatal visits was reported to be 10 in both treatment and control areas, and there was no reported change in the date at which pregnant women first attended antenatal care, which stood at around 11 weeks in all locations.

One of the most critical interventions for safe motherhood is medical assistance at delivery. The survey reports 100% of births were delivered in a health facility which is in line with the general trend in Kazakhstan.

12.1.2 Improvements in behaviour to prevent anaemia

Iron deficiency anaemia is one of the most common and widespread nutrition disorders in the world and is responsible for ill-health, premature death (during pregnancy or child birth) and lost earnings. While the coverage of iron supplementation is unknown in Kazakhstan, the rate of anaemia amongst women is approximately 35% causing several deaths of young Kazakh women every year in pregnancy and childbirth (The Micronutrient Initiative, no date, a). A recent estimate indicates that iron deficiency anaemia together with iodine deficiency has lowered the productivity of the adult workforce in Kazakhstan by an estimated loss equivalent to 0.6% of GDP (*ibid*.).

Two-thirds of women in the survey who had given birth report experiencing anaemia which is higher than the national average. As the CCT targets only the poorest households, this can be understood in terms of the fact that many health outcomes vary according to socio-economic status.

[21] Note that the statistics in this section are not statistically representative: they are the unweighted results of the respondents of the relevant category. These cannot be generalised accurately to Almaty oblast or to the population as a whole because the total number of people in the category (pregnant women, women who have given birth in the last 12 months and households looking after children with disabilities) is not known by okrug. All results are drawn from households with a child eligible for the ECD benefit.

Three-quarters of women who had recently given birth report having taken iron supplements during pregnancy. This proportion is significantly higher amongst households in treatment areas (78%) compared to controls (69%). As BOTA's training programme for pregnant and lactating women place a strong emphasis on good practice to prevent anaemia, this can clearly be seen as an effect of the CCT.

12.1.3 Expenses during pregnancy and childbirth

The survey also collected a range of information on the costs of pregnancy and childbirth. These are presented in Table 12.1.

Table 12.1 Mean amount spent on pregnancy and child birth, for those that incurred a cost (KZT)

	Treatment					N	
Item	Beneficiary	Non-beneficiary	All treatment	Control	TOTAL	Treatment	All
Medication or vitamins	6126	6140	6128	5153	5687	103	188
Antenatal care	1456	2905	1761	1535	1655	200	374
Transport to delivery facility	915	866	905	880	894	146	268
Delivery	7096	1750	6740	5715	6342	30	49
Medication related to anaemia	831	366	735	669	704	199	375
Vitamins	1349	1795	1442	1481	1460	196	370
Consumables / clothes / household goods	7032	9838	7617	7692	7652	192	362
Informal payments	368	651	428	1162	773	202	381

Source: OPM follow-up survey.

Overall, 78% of the pregnant or lactating women interviewed had incurred at least one of the pregnancy or child birth-related expenses outlined in the table. One of the largest reported expenses is the amount of money spent on consumable goods such as maternity and baby clothes, nappies and other pregnancy-related household goods (KZT 7,652, or around $52). This was followed by the cost of delivery itself (KZT 6,342) and money spent on pregnancy-related vitamins and medication (KZT 5687).

In addition to collecting data on the basic cost of pregnancy and childbirth, the survey also attempted to capture information on the opportunity cost of pregnancy and childbirth. Overall, 15% of the pregnant or lactating women that were interviewed reported that they had to give up an income generating activity during their pregnancy which amounted to an average of nearly KZT 26,000 of income lost. This is approximately a quarter of the mean monthly expenditure reported in the survey.

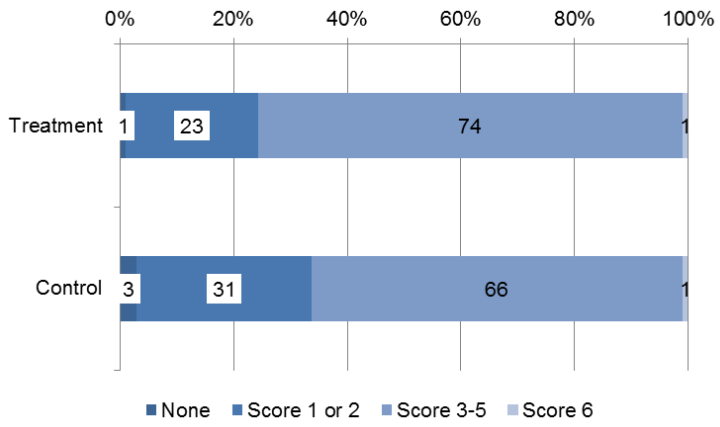
Given that the value of the BOTA CCT for pregnant women in 2012 is KZT 5,200 per month we can see that the CCT should be able both to cover the direct costs of pregnancy and to compensate in part for the opportunity cost of lost income among the small number of women who were previously earning.

12.1.4 Knowledge and awareness

Integrated into the survey questionnaire is the BOTA-developed knowledge and awareness test that is used by BOTA before and after its training programme. This test, comprised of six

questions, was administered to the pregnant and lactating women in the household. Women in treatment areas were a little more likely to get a higher score compared with those in control areas: the proportion getting at least half the questions right was 75% in the former and 67% in the latter (Figure 12.1).

Figure 12.1 Knowledge test scores of pregnant and lactating women



Source: OPM follow-up survey. Note: n = 205 in treatment areas and 183 in control areas.

Bearing in mind that the difference is not very large and these scores are not statistically representative we cannot determine if this is a significant difference, but it does suggest that some women may have improved their knowledge as a result of BOTA's training. This improvement may not be as substantial as BOTA might have hoped. The slight difference is driven by the fact that women in beneficiary households seem to know much more about the types of iron rich foods and myths about the benefits of tea and coffee for iron-deficient anaemia than women in control households. However the low overall score indicates that knowledge of other areas such as symptoms and outcomes of iron-deficiency anaemia are not sufficiently being addressed or were not familiar to the respondents.

Table 12.2 Knowledge and awareness test for PLWs

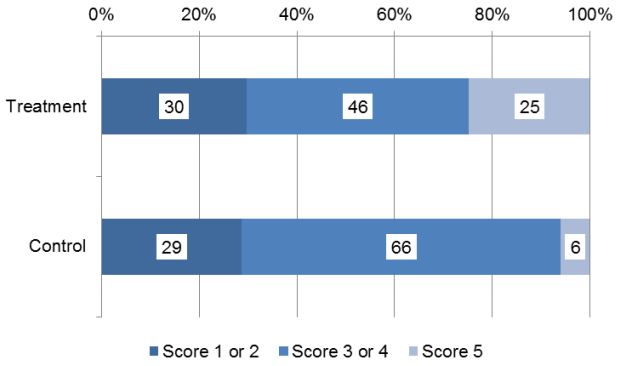
	Treatment					N	
Indicators	**Beneficiary**	**Non-beneficiary**	**All treatment**	**Control**	**TOTAL**	**Treatment**	**All**
Q1: Knows how many ANC visits a woman must attend	81	80	81	79	80	205	388
Q2: Knows when ANC visits should begin	36	59	41	33	37	205	388
Q3: Can name at least 3 iron rich foods	63	71	65	53	59	205	388
Q4: Can name at least 4 common symptoms of anaemia	43	48	44	38	41	205	388
Q5: Knows that tea and coffee are not helpful for iron-deficient anaemia	65	77	67	57	62	205	388
Q6: Can name at least 2 outcomes of iron-deficient anaemia	39	21	35	37	36	205	388

Source: OPM follow-up survey.

12.2 Households looking after children with a disability

Information was also specifically collected from the 3% of households who were looking after children with a disability. The survey team administered to these respondents the knowledge and awareness test that BOTA uses on completion of its training in home-based care to assess progress in understanding about the best care for children. Among our unweighted sample of the 44 households in treatment areas and 35 households in control areas who fitted the category we found that overall knowledge about appropriate care of the child was very variable. In both areas about 30% of our respondents got a score of only one or two correct questions out of five (Figure 12.2). However, at the other end of the scale one-quarter of those in treatment areas answered all five questions correctly, compared with only 6% in control areas. This suggests that for some households BOTA's training on the topics covered by the test has been beneficial. Note, though, that the number of respondents is too small to extrapolate these results to all households of children with a disability.

Figure 12.2 Knowledge test scores of households of children with a disability



Source: OPM follow-up survey.

The questions that were answered best, for households in treatment and control areas alike, were those about communication and social interaction, and about food and nutrition (Table 12.3). Knowledge of appropriate behaviour towards children with disabilities as well as an appreciation of the inherent capabilities of disabled children seemed to be less widely understood across all respondent types.

Table 12.3 Knowledge and awareness test on home-based care

Appropriate knowledge of key area	Treatment			Control	TOTAL	N	
	Beneficiary	Non-beneficiary	All treatment			Treatment	All
Q1: Physical exercise	51	89	60	35	50	44	79
Q2: Food and nutrition	71	94	76	77	76	44	79
Q3: Communication and social interactions	91	92	91	79	86	44	79
Q4: Violent behaviour towards children with disabilities	66	41	60	40	52	44	79
Q5: Capabilities of the disabled child	50	39	48	65	54	44	79

Source: OPM follow-up survey.

PART D: BOTA'S OPERATIONAL PROCESSES

13 Enrolment onto the CCT

13.1 Awareness of the programme

Nearly all eligible households in treatment okrugs (90%) had heard about BOTA's CCT programme at the time of the survey (see Table 13.1). This is an improvement on the 74% of households that had heard of the CCT at baseline, and shows the effect of the gradual diffusion of information via word of mouth or mass media. It seems as though much of the awareness of the CCT in the community is a result of the work of the BOTA volunteer followed by informal networks in the community.

Table 13.1 Awareness of the CCT programme among eligible households (%)

Indicator	%	N
Awareness of the CCT		
Yes, already heard about the CCT	90	1170
No, not aware of the CCT	10	1170
Source of information (% of those that had heard of CCT)		
Volunteers	54	1076
Akimat	11	1076
Teacher / health professional	11	1076
Someone else in the community	22	1076
Total	**100**	

Source: Follow-up survey

Analysis of the wealth status of the uninformed 10% indicates that nearly half of them are in the lowest two quintiles of the survey population. Since the lack of awareness of the CCT is an important source of exclusion error for the programme it is important to ensure that BOTA functionaries continue to improve awareness within communities so that all households eligible for the CCT are able to access it[22]. In particular, the practice of volunteers informing some families but not others on the basis of their perceived likelihood of getting accepted onto the CCT, as reported by some volunteers during qualitative research, should be discouraged if it is continuing to result in undercoverage of eligible households, especially those most in need of the transfer.

13.2 Enrolment

13.2.1 Application status of households

It is estimated that only 59% of eligible households in treatment areas have ever applied to the CCT (see Table 13.2). Compared to the 90% of eligible households that are aware of the programme, this represents another important source of exclusion. The targeting analysis and the 2013 qualitative evaluation discuss these reasons in much more detail (Rogers and MacAuslan,

[22] The term 'errors of exclusion' is used in the technical sense to denote households that are not enrolled on the programme although they are eligible. It does not mean that BOTA has intentionally excluded them from the CCT.

2013; Oxford Policy Management, 2012c). Reasons for non-take-up identified in the qualitative research, besides lack of awareness of the programme, include misinformation leading to self-exclusion; problems with the enrolment procedure, and individual circumstances that prevent households from signing up on the day of registration. Moreover, as reported in section 4.1.2 above, households that are eligible but do not take up the CCT also have different characteristics to those that do apply.

Table 13.2 Application and enrolment status of eligible households (%)

Indicator	%	N
Application status		
Yes, applied for CCT	59	1170
No, did not apply	41	1170
Enrolment status (% of households that applied)		
Successful and currently enrolled in CCT	86	811
Successful but no longer enrolled in CCT	11	811
Application unsuccessful	2	811
Application in processing	1	811
Number of beneficiaries reported per household		
1	81	795
2	17	795
3 or more	1	795
Knowledge about future enrolment events		
Yes, there will be more enrolment opportunities	37	811
No, there will be no more enrolment opportunities	3	811
Don't know	60	811
Total	**100**	

Source: Follow-up survey

Nearly all CCT applications amongst eligible households are successful (97%) (Table 13.2). This indicates a close match between the results of the proxy means test when administered by the evaluation team in respondents' homes compared with that which was administered by BOTA's enrolment specialists outside of the applicants' home. A small proportion (2%) of households that were found to be eligible by the evaluation team had been rejected by BOTA which means that they gave different answers in the two tests, either inadvertently or because their circumstances had changed. Even a small alteration in a household's situation can lead to a different outcome in the eligibility test for the CCT.

Some 11% of applicants who were at one point enrolled in the CCT were no longer receiving cash transfers at the time of the follow-up survey, mainly due to the fact that they no longer meet the eligibility criteria of having a pre-school aged child in the household. Enforced exit from the programme represents one dimension of the dynamic nature of household eligibility and is clearly functioning well. The other dimension is continuous enrolment in communities as households become eligible (by either falling into poverty or having an eligible child), which the targeting analysis found is happening to some extent but not comprehensively.

Some 18% of households represented by the survey sample had more than one beneficiary, but most households received just one transfer (Table 13.2). This figure for households with multiple beneficiaries is lower than the value reported by BOTA's management information system for the

CCT in July 2012, when the follow-up survey started. Data on the latter suggests that about 30% of recipient households in Almaty oblast at the time had more than one beneficiary, rising to about 33% of households by December 2012 under BOTA's policy of maximising the enrolment of beneficiaries within a single household. This suggests either that ECD households, especially those with children at the older end of the eligibility range, are less often found in multi-beneficiary households than other categories or that there has been some underreporting of the number of beneficiaries by survey respondents.

Table 13.1 above noted the importance of households' acquaintances for informing them about the programme. As such, applicants were also asked about their knowledge of future application rounds for the CCT. The survey indicates only 37% reported knowledge of a future application process whereas the majority (60%) did not know the answer (Table 13.2).

13.2.2 Experiences of the enrolment process

The most common enrolment process involves households attending a central location to take an application test on the specified date when BOTA enrolment specialists were scheduled to visit the okrug. The location might be a public building such as an *akimat* or school. Applicants wait until a specialist becomes free and then take the short computer test, the proxy means test, to determine whether they are eligible for the programme. The computer generally provides an immediate decision about the applicant's eligibility based on their responses in the test. For successful applicants the enrolment process also includes signing a participation agreement and a confidentiality agreement with BOTA, and working alongside the specialists to fill in the application for a bank card. With the introduction of the alternative system of telephone enrolment in 2012, as mentioned in section 1.4 above, we would expect to find that enrolment has become cheaper and quicker for households than in 2011, since the proportion of applicants going to a public building and waiting for a specialist has been reduced.

In general, the metrics presented in Table 13.3 are comparable to those that were found in 2011. Overall, the applicants' experience of the BOTA CCT enrolment process is that it is very convenient. Some 94% of applicants took the test in their own okrug and only 5% incurred any travel expenses to get there. We do see a decrease in both the time taken to reach the test location, from 22 minutes in the baseline survey to 20 minutes in the follow-up survey, and the mean time taken to complete the application process, from 1 hour 47 minutes to 1 hour 31 minutes. However, neither of these differences are statistically significant. BOTA might expect to see a larger decline in the time for each of these processes if the telephone enrolment were to become more common.

Table 13.3 Experiences of the enrolment process

Indicator	Total	N
Reaching the test location		
Households taking the test in their own okrug	94%	811
Mean time to reach test location	20 minutes	807
Household that incurred an expense to reach test location	5%	808
At the test location		
Mean length of application time	1 hour 31 minutes	802
Households having both IIN and RNN ready at application	99%	811

Source: Follow-up survey

In one respect we find a significant improvement in the application process. As a measure of the applicants' preparedness, the survey asked respondents if they arrived at the enrolment site with the appropriate documentation such as their individual identification number (IIN) and taxpayer registration number (RNN). Nearly all (99%) of applicants arrived at the enrolment site with the appropriate documentation indicating that they were well informed prior to arriving at the enrolment site. This represents a significant improvement on the applicants' preparedness.

The similarity of results between 2011 and 2012 indicates that BOTA CCT has managed to maintain an efficient enrolment process while scaling-up coverage across Almaty oblast but that the introduction of telephone enrolment has not yet had a major effect on the time and expense to recipients of applying for the CCT.

14 Experiences with day-to-day operations of the CCT

14.1 The volunteers

The volunteers operating in the okrug are the primary link between the community and the CCT. They are instrumental to the implementation of the CCT and deliver all of the training. The volunteers are mostly women from within each okrug recommended by the akim that have a history of working for the public good in roles such as in the akimat, as a teacher, nurse or social worker. As of December 2012, 2,428 volunteers had been trained and mobilised through the BOTA CCT programme across the six oblasts that BOTA is operating in, of whom some 933 were in Almaty oblast.

Nearly all households represented by our sample that are currently receiving the cash transfer were aware of the BOTA CCT volunteer that was working in their community. Table 14.1 presents information on the frequency of contact between recipient and volunteer as well as the ease with which a household could contact the volunteer.

Table 14.1 Contact between volunteers and recipient households

Indicator	Total	N
Contact with volunteer[1]		
Proportion of households that have had contact with volunteer in the last 1 year	79	744
Mean number of times in contact (for those in contact)	5	569
Ease of contacting volunteer		
Easy to contact	91	744
Difficult to contact	6	744
Don't know	3	744

Source: Follow-up survey. Note: (1) Response is from households that know volunteer.

In general, contact between volunteer and recipients is reasonably high, with 79% of households represented by the survey having been in touch with their volunteer over the last year. The fact that this is some way below 100% may be because ECD recipients have no obligation to attend volunteer-led training, unlike recipients for the other three CCT categories (see section 14.2 next). On average the volunteer has been in contact with recipients households about four times in the previous year. Over 90% of recipients indicated that it would be easy to get in contact with the volunteer if they needed to, which is significantly higher than the situation in 2011. When asked about the circumstances in which they would seek the volunteer, the two primary reasons that emerged related to the receipt of the CCT bank card and receipt of the CCT payment.

14.2 The training sessions

Volunteers not only provide the main means of communication for the programme, but also provide specific training courses to CCT recipients. For the ECD category attendance at training on good parenting is not an explicit condition of the cash transfer programme but is encouraged; for the other categories the respective training sessions are compulsory. Nearly half (47%) of households represented by our sample report having anybody in their household ever attend a BOTA training session. Amongst these households, it is usually the mother that attends at an average of 4 times in the previous year. Most of those have attended the optional training on good parenting (85% of those that have attended any training, or 40% of the ECD recipients represented by the sample).

This is in line with the focus in the sample on ECD recipients. The fact that some 60% of ECD benefit recipients had not attended any of the optional ECD training indicates that there is scope for BOTA to continue to expand participation in such training. We also find that the ECD-recipient households are attending BOTA training programmes as part of their obligations for other categories of the CCT: around one in every five households had been to the training on pregnancy, while one in 10 had attended training for each of the categories of home-based care for children with disabilities, and youth employment and livelihoods.

Overall, participants seemed satisfied with the training sessions with over 90% of respondents reporting that the person who led the training was well informed on the subject matter and thought that the training was useful. The survey also indicates that the training sessions were also convenient in that 99% were conducted in the same village or okrug as the recipient. There are even some instances when training was conducted in the recipients' own home (3%).

14.3 Payment systems

Nearly all of the CCT recipients were aware of value of the transfer they were expecting to receive. More than 20% of respondents did not know that the CCT was a monthly transfer to their bank accounts, which is surprising as they had been receiving the cash transfer for up to a year (Table 14.2). This may be because the survey may not have interviewed the holder of the bank card who would be expected to be most knowledgeable about the CCT. Such a knowledge gap is important to address as knowledge of the regular cash transfer has been shown to aid households in planning expenditures to better meet the needs of the household.

Over 80% of households report having received training on the use of the bank card. It is unclear if the remaining 20% of households learned informally through another CCT recipient or did not require training, but all of these households have been receiving cash payments from the programme.

Almost all respondents report incurring a transport cost to reach the cash machine (ATM) to withdraw their payment (95%). The mean transport cost a household would incur on a return journey to the ATM to withdraw their payment is 905 KZT. The cost of transport to simply collect the payment is an important consideration in the design of any cash transfer programme. Given that the average cash transfer amount amongst respondents was 4258 KZT, the cost of transport alone for a return trip amounts to 21% of the average cash transfer payment.

In addition to the cost of transport, 37% of respondents report having to pay a commission to the bank at the point of withdrawing their payment, usually of KZT 100 or 200. It is our understanding that recipients withdrawing cash from ATMs would not be deducted any commission if they use either Halyk Bank or the bank that issued their card; BOTA itself pays a commission of between 0.6% and 1% to the banks for their participation in the programme, so beneficiaries should be able to withdraw their money without further deduction. Therefore, it may be the case that these recipients that report paying a commission at the point of withdrawing their payment are mistaking the bank commission for another type of cost or are withdrawing their cash from a bank other than Halyk Bank or the bank that issued them with their bank cards. While the data from the operations module cannot confirm the precise nature of this commission, the fact that so many recipients report this warrants further investigation.

Table 14.2 Understanding of the payment process

Indicator	Total	N
Understanding of the transfer		
Enrolled households saying they are aware of transfer value (%)	94	795
Enrolled households saying they don't know the transfer value (%)	6	795
Expectations of the transfer		
Mean expected frequency of transfer		
Once a month	78	795
Once every two months	8	795
Once every three months	9	795
Don't know	4	795
Experience of using bank card		
Households having received instructions on use of bank card (%)	83	795
Mean expected value of cash transfer	KZT 4,250	767
Proportion of households reporting having transport costs to reach ATM	95	747
Mean cost of reaching cash machine where bank card can be used (return trip)	KZT 905	690
Households having to pay a commission to collect transfer from the ATM	37	766
Mean cost of commission paid on last payment collection	KZT 162	271

Source: Follow-up survey

14.4 Conditionality

One of the key elements to the CCT is the conditionality requirement placed upon recipients (see annex Table C.3 for the list of conditions by category). Only two-thirds of CCT recipients reported knowing anything about the conditions linked to the cash transfer payment (see Table 14.3). While one would expect all CCT recipients to be aware of the conditionality requirement of the CCT, comprehensive awareness amongst the beneficiary population is rare in conditional cash transfer programmes. For example, conditions in Kenya's Cash Transfer Programme for Orphans and Vulnerable Children were also not always known by beneficiaries (though the levels of awareness reported in that instance, at 84%, were higher than is currently the case with the CCT (Ward *et al.*, 2010)).

Of those that said they were aware of the need to comply with conditions, most (83%) understood the requirement to enrol their children in pre-school though fewer recollected the attendance requirement. Low levels of awareness of CCT conditions could be due to a 'respondent bias' – where the survey was answered by somebody in the household that is not necessarily the most knowledgeable about the CCT. This is unlikely to fully account for the shortfall given that the CCT has been in operations for more than one year.

When asked about the consequences of not meeting conditions, the vast majority of respondents (88%) indicated that that would mean that they are removed from the programme with the remaining respondents not knowing what the consequences might be.

Improving the knowledge of the recipients about the operational dimensions of the CCT and thus the incentives inherent to the CCT should improve compliance to the programme's requirements and ultimately improve its impact.

Table 14.3 Understanding of CCT conditions

Indicator	Total (%)	N
Knowledge of conditions		
Awareness of conditions linked to cash transfer	67	795
Knowledge of enrolment condition[1]	83	542
Knowledge of attendance condition[1]	57	542
Knowledge of consequences[1]		
Reduction of next cash payment	1	542
No consequences	1	542
Exit from the programme	88	542
Don't know	10	542

Source: Follow-up survey. Note: (1) Percentage shows rate amongst those that are aware of conditions.

14.5 Pre-school facilities[23]

14.5.1 Contact with BOTA

Nearly all of the pre-schools in treatment areas that were interviewed during the follow-up survey were aware of BOTA and some 82% of them had been contacted by BOTA. This compares to only 70% of pre-schools that were aware of the BOTA programme with less than half that had been contacted by BOTA during the baseline survey (see Table 14.4).

Table 14.4 Interaction between BOTA and pre-school facility

	Baseline		Follow-up	
Interaction between BOTA and pre-school facility	**%**	**N**	**%**	**N**
Pre-school aware of BOTA at time of survey	70	74	97	178
Pre-school had contact with BOTA at time of survey	49	74	82	182
Attend general information meeting about BOTA's activities in okrug	75	36	84	141
Frequency of contact with BOTA representatives				
Twice a month or more	-	-	40	141
Once a month	-	-	31	141
Every 2 months	-	-	15	141
Less than every 2 months	-	-	7	141
Never since the first contact	-	-	7	141
Proportion of facilities invited by BOTA to participate in CCT	-	-	43	178
Proportion of facilities currently enrolling BOTA CCT children	-	-	37	178

Source: Baseline and follow-up surveys.

It is clear that BOTA has expanded the reach of the CCT amongst pre-schools and has maintained some form of contact with these pre-schools. Of all the pre-schools interviewed in the survey,

[23] Data in this section are not statistically representative of all pre-schools in the oblast since there is no comprehensive list of those facilities. Results are unweighted and come from the questionnaire administered to the 178 facilities in treatment areas that were attended by sampled children and that could be contacted.

including ones that are not attended by CCT recipients, nearly 70% of pre-schools report contact with a BOTA representative at least once a month.

Amongst all of the pre-schools that were interviewed in the follow-up survey, approximately 43% were invited to enrol BOTA children and 37% actually began enrolling BOTA sponsored children (see Table 14.4). The major activity that BOTA requested of pre-schools was to ensure enrolment of specific children identified by BOTA and fill in reports on attendance of children enrolled in the BOTA programme (Table 14.5). The vast majority of facilities complied with these requests.

Table 14.5 CCT-related activities requested of, and done by, pre-school facilities that have had contact with BOTA

	Requested by BOTA[1]		Done by facility[2]	
Activity relating to CCT	**%**	**N**	**%**	**N**
Enrol specific children proposed by BOTA	54	141	87	77
Permit specific children to have flexible hours of attendance	12	141	88	17
Reduce fee for specific children	3	141	75	4
Fill in report on attendance of children enrolled by BOTA	63	141	93	89

Source: Follow-up survey. Note: (1) Figures show facilities that have been requested to do the listed activity, as a proportion of those that had had any contact with BOTA. (2) Figures show facilities that have done the listed activity as a proportion of those requested.

PART E: CONCLUSIONS

15 Conclusions

15.1 The impact of the CCT

BOTA's aim in setting up the CCT programme was to contribute to poverty alleviation among individuals living below the subsistence minimum and to encourage the take-up of social sector services among poor households, especially the enrolment of young children in pre-school. Having tracked the experiences of nearly 2,300 households over the course of a year, half of whom lived in areas where the CCT was running and the other half of whom did not, we find that, even though the CCT has had no discernible impact on household poverty, BOTA has nonetheless achieved several improvements in human development indicators and has had some additional unexpected impacts, often positive. For some of the impacts that have begun to emerge after 12 months, such as changes in patterns of work among children's carers, the real effect may only become apparent in the medium to long run.

The short-term nature of the CCT, and its small size compared with the typical consumption of its target households, necessarily limit its ability to have a more substantial material impact on beneficiary households as a whole. We have seen that, in contrast to some other CCTs elsewhere, it has not induced a change in household composition by encouraging pregnancy or an alteration in migration patterns. Nor has the transfer had the time to have any impact on chronic illness, disability or other major health issues across all family members. Sometimes this absence of a discernible impact may be in part because Kazakhstan already scores quite highly on some socioeconomic indicators, such as food security: very few households report having difficulty achieving a full and varied diet, so it is harder for BOTA to have an effect on the small remainder of households who do experience difficulty in this respect. The same applies to attendance at antenatal care which was already about 100% among pregnant women before BOTA started operating, so there was no room for BOTA to have an impact here.

The main area where the CCT was expected to have a positive impact but where one could not be detected was for household consumption. This is because average consumption among households eligible for the CCT turns out to be in the region of KZT 100,000 per month. The additional monthly sum of KZT 3,600 that was offered in 2012 to households for each beneficiary of pre-school age or child with disabilities (or slightly more, in the case of pregnant and lactating women) therefore falls within the bounds of measurement error and consequently is invisible, if indeed it is there at all. It is impossible to detect whether it may have displaced an equivalent amount of earnings from other sources, though we see no evidence that it has crowded out any help families might have got from their friends and relatives. Nor does the receipt of state benefits seem to have changed as a result. The CCT is not found to have increased households' rate of saving in formal accounts, but there is a slight increase in informal saving. Moreover, rather than enabling households to reduce their debt, the regularity and reliability of BOTA's transfer seems to make it an attractive collateral for informal lenders such as shops and markets, with the result that households in treatment areas are more likely to have debt, and more of it.

Considering the very small additional contribution that the CCT provides to the household budget it is therefore remarkable that, when we confine ourselves to an examination of its effect on the household members for whom it is immediately intended—the pre-school-age child and his or her carer—we see a number of significant changes in behaviour.

These are most notable in relation to pre-school enrolment, where the CCT programme has had a very substantial effect on both demand for, and supply of, pre-school education. Enrolment among our surveyed group of five- to six-year-olds has greatly increased in all locations, both treatment and control, since the baseline survey a year previously, simply because the children are now of the age where they are expected to prepare for starting school, and perhaps also thanks to the government's Balapan programme that aims to improve the number and quality of pre-school facilities. But in treatment areas the rate of children who have ever received any pre-school education has risen to 84% of all those eligible for the CCT, compared with 70% among the equivalent group in areas where BOTA was not operating. This very significant extra demand for pre-school education has largely been met by additional enrolment in mini-centres and in informal 'BOTA facilities' that have been set up in communities for the purpose of enabling households to meet BOTA's conditionality for the transfer. The numbers of children joining kindergartens and zero class does not seem to have been greatly affected by the transfer; but by dint of the increase in enrolment among the less formal pre-school types, the importance of these more traditional facilities has correspondingly shrunk. Most children (over 90%) in all areas attend pre-school for five days a week; but in treatment areas there is a slightly higher likelihood that children attend for perhaps just one or two days a week because, unlike kindergartens and zero classes, the 'BOTA facilities' are usually open for only a few days and a few hours per week instead of the full five days.

Children do not yet appear to be spending longer in pre-school education as a result of BOTA, but we do unexpectedly find that a greater proportion have moved onto Class 1 of school. The consequences of this—whether children have genuinely improved their cognitive ability or whether they move up prematurely and struggle, or are required to go to school to free up places in pre-schools for which demand has increased—will become apparent in the longer run.

An additional area in which outcomes for pre-school-age children seem to have improved, despite it not being an explicit objective of the CCT, is in health care. Children in treatment areas have been found to have a slightly lower incidence of pneumonia, and a greater chance of being taken for health advice if suspected or having it, compared with those in control areas. There was no equivalent impact in relation to diarrhoea. Children in CCT are also more likely to eat iron-rich meat or offal as part of their diet. These findings accord with the results of evaluations of some other cash transfer programmes worldwide that suggest that households may devote some of their additional resources to looking after the health of the child even when this is not a condition of receiving the transfer.

The other person in the household on whom the CCT for ECD beneficiaries has had a noticeable effect is the child's main carer. We find that in treatment areas there has been a shift in perception as to who the main carer is, from older to younger members, and particularly a drop in the proportion of main carers who are in their fifties. This does not necessarily mean that the younger members are now doing more caring; rather, it may be that children who might previously have spent all day at home in the care of a grandmother are now instead at pre-school, while their parents look after them for the same amount of time as before.

Most children's carers are not part of the labour force as they are often pensioners or housewives who also have other small children to look after. But for a small proportion of carers the CCT has resulted in a shift in working practices, with carers more likely now to be engaged in paid work outside the home rather than being self-employed or economically inactive. Furthermore, among those who do have a paid job, the average amount worked is about three hours a week longer as a result of BOTA. This change has not had a visible impact on broader welfare indicators such as the share of adults in the labour force or on household consumption, probably because working carers are a very small subgroup of all the adults in the household. However, it may help explain the

findings that households have acquired a greater diversity of income sources over and above BOTA's transfer itself.

As far as the transfers for other categories of beneficiary are concerned, we find that good practice in antenatal care has not changed in the sample of currently or recently pregnant women that we interviewed. But there has been some improvement in understanding of suitable diets to prevent anaemia, and an increase in women reporting the use of iron tablets. Among the small group of families interviewed who had a child with a disability, understanding of good home-based care for the child was rather mixed. For both groups the improvement in knowledge derived from the training courses was not as substantial as might have been hoped, but there are signs that some knowledge has improved.

15.2 Implications for future programming

What are the implications of these findings for the long-term future of BOTA's CCT? The results suggest that any programme that wishes to have a substantial and immediate impact on the economic condition of this particular target group of households in Kazakhstan may need to consider providing larger sums of money, or for longer periods. In the medium term the shifts in the employment practices among a small group of main carers of young children may lead to multiplier effects, as they bring in more money to their household. However, a high proportion of individuals over the age of 15 are not in the workforce and will be unaffected by alterations in incentives for the type of work they do, unless they move from being outside the workforce to being economically active.

At the same time we have found that even small amounts of money, conditional on attendance at pre-school, can be attractive enough to encourage a big change in behaviour among eligible households. As the government works towards its target of increasing pre-school enrolment to all five- and six-year-olds, and many younger children too, it may find it useful to take BOTA's experience into consideration. The fact that the extra enrolment has fallen largely upon less traditional pre-school facilities may be an indication that regular kindergartens or zero classes are more restrained in their ability to respond rapidly to changing demand. The change in preference for type of pre-school also raises the question as to what will happen to the 'BOTA facilities' that have absorbed much of this additional demand, once the CCT programme draws to a close in its current form in 2014. If they are to be continued it may be worth considering also whether their opening hours should be extended to bring them more into line with other pre-school facility types. Getting an otherwise unenrolled child to a pre-school even for two hours a week may turn out to have beneficial effects in the long run, but certainly will have a different set of impacts—be they positive or negative—compared with the enrolment of a child into a full-time kindergarten for 40–50 hours a week.

The continuation of the demand-side incentives for pre-school education alongside the government's supply-side programme of expansion should work well to improve the quantity of education delivered to the target group; as for the quality of that education, this is not an area in which a cash transfer aimed at households can have a strong influence, so the government's ongoing measures to improve quality, such as through improving the qualifications of teaching staff, will continue to be important.

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Annex B Glossary of terms

B.1 Local words and phrases

akim	The head of a local administrative unit (okrug, rayon or oblast)
akimat	The office of the akim
oblast	Highest level of territorial unit. Kazakhstan is divided into non-overlapping oblasts, with the exception of cities of at least 1 million people ('towns of significance to the republic') which have an equivalent status to an oblast.
okrug	Subdivision of a rayon. The whole rayon is divided into non-overlapping okrugs, governed by an akim, with the exception of medium-size towns. Towns that have at least 10,000 people, of whom at least two-thirds are in households where a member is in formal sector employment and where there is some industry, infrastructure, trade and social services ('towns of significance to the rayon') have a status equivalent to an okrug. Some okrugs consist of a single settlement, while others consist of several settlements grouped together.
rayon	Subdivision of an oblast. The whole oblast is divided into non-overlapping rayons, governed by an akim, with the exception of very large towns. Large towns with a population of at least 50,000 that are considered to be major economic or cultural centres ('towns of significance to the oblast') have a status equivalent to a rayon.

B.2 CCT words and phrases

eligible	A person or household that would be accepted onto the CCT programme if they were to apply because they pass all the eligibility criteria—including the proxy means test and the existence of an RNN or other identification number—regardless of whether or not they have actually applied or been accepted
beneficiary	A person who lives within an eligible household, who is in the target category for the CCT programme (e.g. a child of pre-school age) and who has been accepted onto the programme because the household has been through the enrolment process
proxy means test	The test that is a predictor of poverty : it estimates whether the household is poor by collecting information on variables such as ownership of certain assets that tend to be correlated with poverty. A score is attached to each of the household's responses, and those households that have a score below the defined threshold are considered to be poor.
recipient	The bank card holder who is designated to receive the cash benefit (usually the mother in the case of a pre-school-age child)

Annex C Additional information on the CCT programme

C.1 Categories of beneficiary

At the time the baseline survey was begun there were three categories of beneficiary eligible for the CCT, as presented in Table C.1. The fourth category, for teenage school-leavers, was introduced later.

Table C.1 Categories of beneficiary at time of baseline

Category	Definition
Pre-school children	Children aged 4 upwards, up until 31 August after their 6th birthday. The children are eligible to start Class 1 on 1 September after their 6th birthday, and cease to receive payments at this point.
Pregnant and lactating women	Women who are pregnant and have written confirmation of the pregnancy from a doctor. Women may continue to receive payments until the infant reaches 6 months old. The latest date for a woman to be eligible for enrolment on the programme is with an infant aged 3 months old.
Children with disabilities	Children up until their 16th birthday who have a certificate of disability from a doctor and who are cared for at home rather than in a residential institution. The maximum duration of the benefit is two years.

Source: BOTA.

C.2 Value of the payment

The CCT payment is revised annually. The monthly values during the period of the evaluation were as shown in Table C.2.

Table C.2 Monthly value of the CCT, by category (KZT)

Category	2010	2011	2012
Pre-school children	2,700	3,300	3,600
Children with disabilities	2,700	3,300	3,600
Pregnant and lactating women	3,900	4,700	5,200

Source: BOTA.

C.3 Conditions

In addition to meeting the eligibility criteria for enrolment onto the CCT, each participating household must fulfil regular conditions that depend on the category of the beneficiary. Non-compliance with the conditions leads to suspension of the beneficiary's receipt of the transfer; when the household starts to meet the conditions again the transfers resume.

Table C.3 Conditions applied to receipt of the CCT, by category

Category	Condition for receipt
Pre-school children	No condition for the first payment. From the second month onwards the child must: (i) be enrolled in a pre-school facility which may be registered or unregistered but which is run by a qualified teacher. (ii) attend for 85% of days that the school is open, or have an acceptable excuse for absence if attendance is lower
Pregnant and lactating women	No condition for the first payment. To receive the second payment onwards the woman must, in the previous two months, have: (i) made an antenatal visit to the doctor for her own health care, or a postnatal visit to a health worker for the baby's health care (ii) attended classes on good antenatal / postnatal practices given by BOTA volunteer
Children with disabilities	No condition for the first payment. To receive the second payment onwards the carer must, in the previous two months, have attended classes on home-based care given by BOTA volunteer

Source: BOTA.

C.4 The role of the oblast teams

BOTA's central office staff set up teams in the oblast where they operate. For Akmola and Kyzylorda these are regional offices of BOTA itself; in Almaty the organisation subcontracts two local NGOs as its partners. The teams introduce the programme to oblast and rayon akims, and recruit and train the community volunteers (see section C.5 below). Enrolment specialists from the oblast teams spend from about the 1st to the 20th of each month actively enrolling beneficiaries in communities—including administering the proxy means test, and obtaining copies of identity documents and other information required to issue the bank card—and the remainder of their time on office-based administration including entering information into the management information system about both applicants and existing beneficiaries.

C.5 The role of the volunteer

The focal points for the CCT programme at the local level are the community volunteers. They help to disseminate information about the programme among the community, inform potential beneficiaries about the enrolment process, and alert the oblast enrolment specialists when there is a new group of applicants ready to be enrolled. They provide the training in home-based care for children with disabilities and in good practices for pregnant and lactating women, attendance at which forms part of the conditionality for receipt of the CCT benefit by households in those categories. They also support the monitoring of compliance with other conditions such as attendance at pre-school facilities by children enrolled on the ECD programme.

Volunteers tend to be women who work in the community in which they live. Although they do not earn a salary they do receive a small monthly stipend to cover their expenses. They also receive training in how to carry out their duties as well as in the modules that they subsequently teach to recipient households.

Annex D How cash transfers work

D.1 A demand-side rather than a supply-side mechanism

Cash transfers are a demand-side mechanism. 'Demand-side' means that the mechanism is targeted at the service *user*[24]. It aims to improve outcomes by increasing the demand from households for the use of existing services. It does this by removing monetary and, to a certain degree non-monetary, barriers that prevent poor households from accessing services. The assumption is that because of monetary constraints (direct and indirect costs, as well as opportunity costs) households cannot afford to use the relevant services, or else they are unfamiliar with what the service offers, or feel that it is not appropriate for their needs. The provision of small amounts of cash, perhaps conditional on certain behaviours, contributes to eliminating such barriers to access. The intended result is that services such as education and health care facilities are used more, and the human development outcomes of the beneficiaries improve.

The demand-side approach of CCTs contrasts with a 'supply-side' strategy that is targeted at the service *provider* and that might, for example, aim to increase the number or quality of educational or health facilities. In most cases, for instance in Latin America, CCTs have been introduced when supply-side mechanisms have proven to be insufficient by themselves to improve take-up of essential services. Supply-side mechanisms seem to be preferable where there is already a demand for the services, i.e. households would like to use the services but they are constrained because the services do not exist or they cannot get to them. The BOTA CCT programme has carried out occasional informal supply-side activities in the form of advocacy by community mobilisation specialists to encourage the establishment of pre-schools, but these are not its focus.

D.2 The targeting of cash transfers

Cash transfer programmes usually have finite resources: cash cannot be given to every household in the country[25]. For this reason the programmes are *targeted* at a more restricted set of households or individuals whose participation will best help the programme to achieve its objectives. There are numerous ways of deciding whom to target. These include selecting people who live in a particular geographical area (geographical targeting), those who meet a categorical requirement such as being of a certain age group (categorical targeting) or those who are classified as the poorest by an agreed measure (poverty targeting), or else permitting communities to make their own judgment about which households are most deserving of the cash (community-based targeting). BOTA uses a combination of the first three of these.

D.3 The enrolment of the target group

Households that are eligible for cash transfer programmes, according to their targeting criteria, may either be automatically enrolled or else may have to submit an application. In both cases households will have the opportunity to withdraw if they do not wish to participate.

[24] Note that 'demand-side' does not mean that the user has to 'demand' the transfer: it is unrelated to issues as to whether households benefit automatically—'automatic enrolment'—or have to apply ('application-based enrolment'). See below.

[25] Rare exceptions such as the cash distributed to every household under Mongolia's Human Development Fund, set up in 2009, are not cash transfers in the same sense of serving a social protection function. In the example of Mongolia it is a means of distributing resource wealth.

BOTA's CCT is the second of these, an application-based programme. For such programmes there will always be households that do not apply because they feel that the benefits of being enrolled are not worth the cost. This is all the more true for conditional cash transfers where the household has to weigh up whether it wants or is able to meet the conditions in addition to other considerations. This means that any organisation that implements this type of cash transfer needs to consider not only how to maximise awareness of the programme among potential beneficiaries, but also how best to attract people to apply for the programme, and how to make it possible for them to do so. All of these stages are necessary in order to get potential beneficiaries enrolled so that the programme can achieve the objectives it has set itself.

Annex E Sample design and survey weights

This annex describes the sampling strategy for the quantitative element of the impact evaluation of BOTA's CCT. It shows how the team selected which locations to go to (section E.1) and which households and schools to interview (section E.2). It presents both the anticipated sample size at baseline and follow-up, and the actual sample achieved. It also provides detail on how this information was used to construct the survey weights that make the results representative of the wider eligible population rather than just reflecting the results of the interviewed households alone. The steps described in sections E.1 and E.2 on the selection of locations and interviewees are summarised in Figure E.1 overleaf.

E.1 Cluster sample and random assignment methodology

The first sampling task was to select the sample of geographical areas for the evaluation from amongst those in Almaty *oblast* where the CCT programme might operate, and to randomly assign these areas to either treatment or control status. An 'area' was defined as an *okrug*, the smallest level of local government administration (*akimat*) consisting of a group of villages governed by a mayor or *akim*.

E.1.1 Selection of okrugs

BOTA's priority for the rollout of the CCT programme in Almaty *oblast* was to maximise the coverage of the eligible population in small and medium-sized rural areas. In such areas programme volunteers would be familiar with their local community and could identify potential applicants relatively easily. In larger rural areas and in urban areas, where the community structure was less cohesive, BOTA believed that it would be harder both to recruit volunteers and to identify and enrol eligible households.

The quantitative evaluation has therefore measured the impact of the CCT programme in these small and medium-sized rural areas. All other areas were excluded from the sample frame for the evaluation by agreement with BOTA. This was a five-step process:

- In **Step 1** the three regions of Almaty *oblast* classified by the state statistical agency as 'towns of significance to the oblast'—Taldykorgan, Kapshagay and Tekeli—were excluded from the sample frame as these are heavily urbanised. This left the 16 *rayons* that are predominantly rural (see top section of Figure E.1).
- In **Step 2** the most heavily populated and urbanised of the 254 administrative units in those 16 rayons were also excluded. All seven 'towns of significance to the rayon' were excluded. Of the remaining 247 rural okrugs, 19 were excluded from the sampling frame as a consequence of either having a population of more than 15,000, or at least one settlement with a population of at least 10,000.
- In **Step 3** the remaining 226 okrugs were matched in 113 pairs according to a multidimensional measure of distance based on socioeconomic characteristics. Each pair is composed of two okrugs, the most similar on the basis of available information. This is to ensure balance in covariates across treatment and control okrugs[26].

[26] Okrugs were matched on the basis of population size, average household size, average number of people per room, average number of square metres of living space per individual, rayon capital, distance to the rayon centre and a set of rayon dummies. At every step of the matching algorithm all possible pairs were formed from all (remaining) okrugs, and the pair was selected with the minimum multidimensional distance and extracted from the universe before the next iteration.

Figure E.1 Outline of the sampling strategy

Sampling Units	Domain	Strata	Number of Units Selected	Selection method	Imple-mentation	Total Sample Size	
Regions	Almaty oblast	Towns of significance to the oblast	0	All 3 are excluded from the study (urban areas)		0	16
		Rayons	16	Selected with certainty	Done by OPM	16	
Administrative-territorial unit below level of region	All 16 selected rayons	Towns of significance to the rayon	0	All 7 are excluded from the study (urban areas)		0	
		Rural okrugs with total population >15,000	0	All 13 are excluded from the study (densely populated areas)		0	
		Rural okrugs with at least 1 settlement of >10,000 population	0	All 6 are excluded from the study (densely populated areas)		0	
		Pairs where BOTA had already entered one okrug at the time of drawing the sample	0	All 3 pairs (6 okrugs) are excluded from the study		0	
		All 220 other rural okrugs	60 T, 60 C	Paired and selected with probability proportional to size (sum of the two elements of the pair)	Done by OPM	60 T, and 60 C clusters (some large okrugs have randomly been selected twice, so this translates into 54 T and 54C unique locations)	
Households with children eligible for CCT (pre-school category)	All 108 selected rural okrugs	Households with children who are eligible for CCT for the full 12 months between baseline and follow-up surveys	10 per okrug (baseline); 20 per okrug (follow-up)	Simple random sampling	Automatic excel sampling sheet	1,200 (baseline); 2,400 (follow-up)	1,200 (baseline); 2,400 (follow-up)
		Households with children who are eligible for CCT for some but not all of the full 12 months between baseline and follow-up surveys	0	Excluded from the study (no possibility to assess impact at follow-up if they have ceased to receive the benefit by then)		0	
Pregnant and lactating women	All households selected in the previous step	All pregnant women or women with infants under 6 months at time of baseline survey	All of them	Selected with certainty	To be done by the field teams	As many as found in households of sampled children	
Pre-school facilities	All those attended by children selected in the previous step	All pre-school facilities (government and private)	All of them	Selected with certainty	To be done by the field teams	As many as attended by sampled children	

Source: OPM.

- In **Step 4** three pairs (six okrugs) were dropped as BOTA had already launched the CCT programme in one element of the pair.
- In **Step 5** a random sample of 60 pairs of Primary Sampling Units (PSU) (120 PSUs at the level of the okrug) was drawn from a universe of 110 pairs (composed of 220 out of the total 262 administrative units in Almaty oblast). The sample of PSUs was drawn using the method of Probability Proportional to Size' (PPS), with the size of each pair given by the sum of the population of the two elements of the pair. The result is that a few pairs of okrugs with large populations were randomly selected twice, so the total number of okrugs included in the evaluation is 108 (54 pairs) rather than 120 (60 pairs).

The study is representative of all places that were not excluded from the sample frame, i.e. all rural okrugs with a population of less than 15,000, and where there are no single settlements with a population of at least 10,000, and where BOTA had not begun recruitment of volunteers at the time of the sample design in February 2011.

E.1.2 Assignment of okrugs to treatment and control

In **Step 6** for each pair one element was randomly assigned to 'treatment' and the other element to 'control'. In treatment okrugs the CCT programme began payments immediately after the evaluation baseline survey was conducted. In control okrugs the CCT did not operate for the duration of the evaluation. An okrug cannot simultaneously be both a treatment and a control okrug. Areas that were not selected as either treatment or control remained entirely outside of the evaluation and BOTA was able to proceed with rollout in those areas as it deemed suitable.

E.2 Selection of households and pre-school facilities

Having chosen which locations to go to, a further four steps were required to select the households and facilities to be interviewed in those locations:

- **Step 7** was the **listing operation**. This is not a true sampling stage but it was necessary to construct the sample frame for child selection. On the basis of the lists available at the *okrug akimat*, children in the relevant age group (see below) were selected and their households visited[27]. Up to 72 children were visited at the listing stage in each selected okrug (144 in okrugs that were sampled twice). BOTA's proxy means test was administered to each household to determine if the household was eligible for the CCT (both in treatment and control okrugs). This resulted in a list of 5,388 eligible children out of the 6,899 interviewed.
- **Step 8:** a random sample of children is drawn from amongst *eligible* children and the households of sampled children are then visited for interview. The evaluation is looking at the impact of the programme on children in eligible households because that group can be defined in both treatment and control areas. 'Eligible households' are those that contain a child in the appropriate pre-school age to receive the CCT (see section E.2.1 below) and that pass the programme PMT and would be eligible to enrol even though they may not have done so. For example, there might be some poor households with children of the right age group who could not afford to reach the CCT enrolment location or who were not available on the day of registration.

[27] The *akimat* draws up regular lists of every child in the *okrug* to plan for school enrolment. At least once a year—and it seems usually twice, in September and January—each school in the okrug is assigned a number of streets, a *mikrouchastok*. The teachers must knock on the door of every household and list the names and dates of birth of children living there.

  - At baseline the sample was half the size that at follow-up by design. This is because the baseline was primarily used to check that the random assignment of okrugs to treatment and control groups was successful.
  - At follow-up the sample was larger to provide the necessary statistical power to detect impact. The selection of households in treatment areas was in part determined by whether the eligible household was a beneficiary or a non-beneficiary: beneficiaries had a greater probability of being selected. This ensured that a robust measure of programme impact could be constructed (see section 4.1.3).
- **Step 9** took place after the selection of the households containing eligible children. At this stage the team identified all pregnant women or women with infants under six months residing in households containing sampled children that were eligible for the ECD category of the CCT programme. All of these were interviewed with the module of the quantitative household questionnaire relevant to pregnant and lactating women.
- **Step 10:** The field teams identified all pre-school facilities attended by sampled children and administered the facility questionnaire to those facilities.

E.2.1 Age eligibility for the evaluation of the pre-school CCT

The age category of children whose households are eligible for the ECD transfer is not strictly those 'aged 4–6'. At the start of the evaluation the discussion of which children were eligible for the ECD transfer had referred to that age group. This implies that three years' worth of children in poor households are potentially eligible. In fact, the number of children eligible for the transfer is much smaller; and the number who were eligible to receive a full 12 months of transfer in the first year of the programme which we evaluated is smaller still (Table E.1 and Table E.2):

- Children born between September 2004 and August 2005 were only eligible for a few months of transfers until 31 August 2011; they then enrolled in school in Class 1;
- Children born between September 2005 and August 2006 will be eligible for transfers until 31 August 2012. So if they lived in okrugs where enrolment took place before August 2011 they could receive the full 12 months of transfers in the first year of the programme; if enrolment took place late in 2011 they would receive less than a year's worth of transfers;
- Children born after September 2006 gradually became eligible for transfers as they reached their fourth birthday from September 2010 onwards. If they lived in okrugs where initial enrolment took place before their fourth birthday they would need to be picked up in a later phase of enrolment.
- Thus, for enrolment that took place in an okrug in March 2011, the children eligible in that month to receive a full 12 months of transfers were born within a span of only 19 months, between September 2005 and March 2007, not 36 months as might be supposed. Any okrug that was enrolled in October 2011 would only be able to provide 12 months of transfers to children born with the space of just 13 months, between September 2006 and October 2007—nearly two-thirds fewer children than had been supposed.

The evaluation has measured the impact of the programme on households that have been eligible for the programme for the whole year between the baseline and follow-up survey. This is because for those that only receive the transfer for part of the period, many of the survey modules were not applicable. For instance, attempting to detect a change in a household's consumption between baseline and follow-up would have been impossible if they had already stopped receiving the cash transfer by the time of the follow-up survey (this is particularly important for areas such as consumption, where much of the impact might be expected to be found). Only those children in the right age range for the purposes of the evaluation were thus identified and selected for PMT from the *mikrouchastok* lists.

Table E.1 Eligible dates of birth for CCT programme

Date of birth		Month of enrolment and baseline survey 2011									
Year	Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004	Jan	Not eligible for CCT - already in school									
2004	Feb										
2004	Mar										
2004	Apr										
2004	May										
2004	Jun										
2004	Jul										
2004	Aug										
2004	Sep	YES ELIGIBLE						Not eligible - already in school			
2004	Oct										
2004	Nov										
2004	Dec										
2005	Jan										
2005	Feb										
2005	Mar										
2005	Apr										
2005	May										
2005	Jun										
2005	Jul										
2005	Aug										
2005	Sep	YES ELIGIBLE									
2005	Oct										
2005	Nov										
2005	Dec										
2006	Jan										
2006	Feb										
2006	Mar										
2006	Apr										
2006	May										
2006	Jun										
2006	Jul										
2006	Aug										
2006	Sep	YES ELIGIBLE									
2006	Oct										
2006	Nov										
2006	Dec										
2007	Jan										
2007	Feb										
2007	Mar										
2007	Apr		Not eligible - too young								
2007	May										
2007	Jun										
2007	Jul										
2007	Aug										
2007	Sep										
2007	Oct										
2007	Nov										
2007	Dec										

Table E.2 Transfers a beneficiary received in first year, by date of birth

Date of birth		Month of registration 2011									
Year	Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004	Jan										
2004	Feb										
2004	Mar										
2004	Apr										
2004	May										
2004	Jun										
2004	Jul										
2004	Aug										
2004	Sep	6	5	4	3	2	1				
2004	Oct										
2004	Nov										
2004	Dec										
2005	Jan										
2005	Feb										
2005	Mar										
2005	Apr										
2005	May										
2005	Jun										
2005	Jul										
2005	Aug										
2005	Sep	12							11	10	9
2005	Oct										
2005	Nov										
2005	Dec										
2006	Jan										
2006	Feb										
2006	Mar										
2006	Apr										
2006	May										
2006	Jun										
2006	Jul										
2006	Aug										
2006	Sep	12	12	12	12	12	12	12	12	12	12
2006	Oct										
2006	Nov										
2006	Dec										
2007	Jan										
2007	Feb										
2007	Mar										
2007	Apr										
2007	May										
2007	Jun										
2007	Jul										
2007	Aug										
2007	Sep										
2007	Oct										
2007	Nov										
2007	Dec										

E.3 Data collection

Data was collected on a rolling basis between Apr 2011 and Jan 2013. In each okrug the teams conducted the listing operation to obtain PMT data and then drew the sample and conducted interviews. Listing operations took place between Apr 2011 and Dec 2011. Household interviews took place between Jun 2011 and Jan 2012 at baseline, and Jul 2012 to Jan 2013 at follow-up. At baseline household interviews were conducted as soon as possible after listing operations were completed in each okrug. PMT scores were then calculated and the sample of households to survey was drawn. Normally this was within one month but in some cases it was between 1 and 2 months. On a very few cases it was just over 2 months. At follow-up households were visited as close to 12 months after baseline as possible[28].

E.4 Sample size

The sample design was intended to give an overall household sample size of 1200 at baseline, and 2400 at follow-up (Table E.3). The full sample was drawn at baseline, even though only half of the sampled households were interviewed in the first year. This is because the baseline was intended solely to test that the randomisation has worked. The full sample was interviewed at follow-up, at which point the treatment sample was further disaggregated between BOTA beneficiary households and non-beneficiaries[29].

Table E.3 Sample sizes at baseline and follow-up (number of children)

Households	Treatment	Control	Total
Baseline			
Intended sample	600	600	1200
Sample achieved	576	589	1173
Follow-up			
Intended sample	1200	1200	2400
Sample achieved	1170	1119	2289
of which:			
Beneficiaries known at baseline	759	n/a	n/a
Non-beneficiaries	411	n/a	n/a

Source: OPM.

Not all households containing sampled children achieved a completed interview either at baseline or follow-up. For those that did not, where available a replacement was randomly selected from the same okrug in order to maintain the required sample size. At baseline the replacement rate for household interviews was 7%. At follow-up the replacement rate was 13%. Reasons for non-interview are presented in Table E.4.

[28] The vast majority of follow-up interviews were carried out between 11-13 months after baseline. A small minority extended beyond these bounds by up to one month.

[29] This latter stratification was made on the basis of households' beneficiary status as known at the time of drawing the sample in early 2012. The analysis in the report uses a different measure which also includes households that were found on BOTA's management information system as of the end of 2012, and those who reported that they were a programme beneficiary even though their details could not be matched with BOTA's records. The total number of households used for the disaggregation by beneficiary in the analysis is therefore 867, compared with the 759 known after the baseline.

Table E.4 Reason for non-interview

	Baseline		Follow-up	
Result of interview	**Number**	**%**	**Number**	**%**
Household not found / Members don't live there	1	1	13	3
Refused	14	15	96	22
Away - short period	7	7	3	1
Away - extended period	52	55	134	31
Moved away	18	19	71	17
Child wrong age	0	0	2	0
Child moved to a different household	0	0	86	20
Other	2	2	22	5
Total	**94**	**100**	**427**	**100**

Source: OPM.

Even before the replacements made during the baseline and follow-up surveys, a large number of replacements had been made for households selected at the listing. This was predominantly due to inaccuracies in the listing sample frame provided by the *mikrouchastok* lists. These inaccuracies included things like incorrect dates of birth or address information for children, or children who had moved away. At listing the replacement rate was consequently 21%, with 78% of these cases (2076 out of 2650) being explained by errors in the sample frame. A breakdown of the reasons for replacement at listing is given in Table E.5 below.

Table E.5 Reason for non-interview at listing

Reason	**Number**	**%**
Partially complete	4	0%
Household not found / Members don't live there	1097	41%
Refused	75	3%
Away - short period	57	2%
Away - extended period	426	16%
Moved away	723	27%
Child wrong age	256	10%
Other	12	1%
Total	**2650**	**100%**

E.5 Survey weights

For this analysis two sets of weights are constructed: child-level weights and household-level weights. The former produce estimates that are weighted to be representative of all ***children*** of the appropriate age (see section E.2.1 above) that live in households that are eligible for the programme according to the poverty criteria, living in Almaty oblast in rural okrugs with a population of less than 15,000, and where there are no settlements with a population of at least 10,000, and where BOTA had not begun recruitment of volunteers at the time of the sample design.

The latter produce estimates that are weighted to be representative of all ***households containing*** children of the appropriate age (see section E.2.1 above) that live in households that are eligible for the programme according to the programme PMT, living in Almaty oblast in rural okrugs with a population of less than 15,000, and where there are no single settlements with a population of at least 10,000, and where BOTA has not begun recruitment of volunteers at the time of the sample design. These two weights are different because some households have several children of eligible age.

Child weights are given by the inverse probability of being selected:

$$w_i = 1 / [(a_i/A_i) *(b_i /a_i)*(c_i /b_i)* D_i]$$

Where:

- A_i is the total number of children of eligible age for the evaluation study in okrug *i*
- a_i is the number of children of eligible age for the evaluation study selected for PMT in okrug *i*
- b_i is the total number of children of eligible age for the evaluation study residing in households eligible by PMT in okrug *i*
- c_i is the total number of children of eligible age for the evaluation study residing in households eligible by PMT with completed household interview data in okrug *i*
- D_i is the selection probability of okrug *i.*

Household weights are constructed using the same formula but substituting the number of *households containing* children of eligible age for the evaluation study, as opposed to the number of *actual* children of eligible age for the evaluation study, for the relevant nominators and denominators.

In the case of household weights the sample frame did not provide data for $A_{i,}$ so this has been imputed using the ratio of households to children at a_i[30].

At follow-up the treatment sample was disaggregated between BOTA beneficiaries and non-beneficiaries. These two strata are weighted exactly as described above, where the total relevant population denominators are disaggregated between beneficiaries and non-beneficiaries.

Both child and household weights have been adjusted for non-response. A selection model was run using variables that had been collected during the listing exercise, to identify the determinants of non-response amongst households who were originally selected to be interviewed (the target sample). The aim was to see whether the people that did not reply to the survey had different characteristics to those that did reply. It emerged that the probability of completing an interview was significantly higher for households containing a housewife, and significantly lower for households with a larger number of children, as well as for better off households with a higher PMT score. Response rates were also much higher amongst BOTA beneficiaries compared to other household types in the sample. The weights were first constructed to represent the *target* sample from within each of the sampling strata as described above. Weights for observations *retained* in the sample were then adjusted for selective non-response by inflating or deflating the base weights by the inverse of the probability of completing the interview as calculated by the model.

[30] For pre-school-age children the only sample frame available to the evaluation team within the given resource framework was that provided by the *mikrouchastok* lists of all children in each okrug. These lists detail all children residing in the okrug, but do not delineate between particular households – i.e. a small percentage of households in each okrug do in fact contain multiple children of eligible age, implying a slightly lower number of households than there were children on the list in each okrug.

E.5.1 Pregnant and lactating women and disabled children aged 0-16

Due to the small and, at the time of sampling, unknown sample size for the two other population groups eligible for support by the BOTA CCT programme, pregnant and lactating women and disabled children aged 0-16, no survey weights are used for descriptive statistic estimates for these two groups. The analysis simply reports mean proportions and mean values for relevant indicators over the achieved sample and estimates are not representative of any broader populations.

E.5.2 Facility weights

The facilities interviewed in the sample were a function of the children sampled for interview and the facilities which they declared themselves to be attending at the time of interview. As such, defining weights for facility-level data is difficult and would implicitly reflect a particular analytical choice. In the analysis conducted for the evaluation the choice is made to read facility-level information down to child level (by linking facility data to children attending those facilities) and is thus analysed as child-level data using child weights.

Annex F Calculation of consumption and poverty rates

F.1 The choice of the welfare indicator

Poverty involves multiple dimensions of deprivation, such as poor health, low human capital, limited access to infrastructure, malnutrition, lack of goods and services, inability to express political views or profess religious beliefs, etc. Each of them deserves separate attention as they refer to different components of welfare, and indeed may help policy makers to focus attention on the various facets of poverty. Nonetheless, often there is a high degree of overlapping: a malnourished person is also poorly educated and without access to health care.

Research on poverty over the last years has reached some consensus on using economic measures of living standards and these are routinely employed on poverty analysis. Moreover, income-based poverty indicators are the basis to monitor the first of the Millennium Development Goals. Although they do not cover all aspects of human welfare, they do capture a central component of any assessment of living standards. The main decision is to make the choice between income and consumption as the welfare indicator. Consumption is the preferred measure because it is likely to be a more useful and accurate measure of living standards than income. This preference of consumption over income is based on both theoretical and practical issues.

The first theoretical consideration is that both consumption and income can be approximations to utility, even though they are different concepts. Consumption measures what individuals have actually acquired, while income, together with assets, measures the potential claims of a person. Second, the time period over which living standards are to be measured is important. If the interest is the long-run, as in a lifetime period, both should be the same and the choice does not matter. In the short-run though, say a year, consumption is likely to be more stable than income. Households are often able to smooth out their consumption, which may reflect access to credit or savings as well as information on future streams of income. Consumption is also less affected by seasonal patterns than income, for example, in agricultural economies, income is more volatile and affected by growing and harvest seasons, hence relying on that indicator might over or underestimate significantly living standards.

On the other hand, there are practical arguments to take into account. First, consumption is generally an easier concept than income for the respondents to grasp, especially if the latter is from self-employment or own-business activities. For instance, workers in formal sectors of the economy will have no problem in reporting accurately their main source of income, i.e. their wage or salary. But people working as self-employed, in informal sectors or in agriculture will have a harder time coming up with a precise measure of their income. Often is the case that household and business transactions are intertwined. Besides, as it was mentioned before, seasonal considerations are to be included to estimate an annual income figure. Finally, we also need to consider the degree of reliability of the information. Households are less reluctant to share information on consumption than on income. They may be afraid than income information will be used for different purposes, say taxes, or they may just considered income questions as too intrusive. It is also likely that household members know more about the household consumption than the level and sources of household income.

F.2 The construction of the consumption aggregate

The consumption aggregate as an indicator of household welfare has been created to be as comprehensive as possible given the available information. Indeed, omitting some components assumes that they do not contribute to people's welfare or that they do not affect the rankings of individuals. Second, market and non-market transactions are to be included, which means that purchases are not the sole component of the indicator. Third, expenditure is not consumption. For perishable goods, mostly food, it is usual to assume that all purchases are consumed. But for other goods and services, such as housing or durable goods, corrections have to be made. Lastly, the consumption aggregate comprises five main components: food, non-food, housing, durable goods and energy. The specific items included in each component and the methodology used to assign a consumption value to each of these items is outlined below.

F.2.1 Food component

The food component can be readily constructed by simply adding up all consumption per food item, previously normalized to a uniform reference period, and then aggregating all food items per household. The CCT impact evaluation records information on food consumption at the household level for 78 items, organized in eight categories: bread, bakery and grain products; meat and offal; fish and fish products; milk, cheese and eggs; butter, oils and fats; vegetables; other.

For each item interviewers collect information on quantity consumed and total value of the goods consumed with a recall period of seven days before the interview. All possible sources of consumption are included. This means that the food component comprises not only expenditures on purchases in the market or on meals eaten away from home but also food that was produced by the household itself or received as a gift.

F.2.2 Non-food component

As in the case of food, non-food consumption is a simple and straightforward calculation. Again, all possible sources of consumption must be included and normalised to a common reference period. The survey collects information on the total value consumed of each of 72 items arranged in 16 different groups such as utilities, communication, washing and toiletries, transportation, animals, medicines and health, home, services and rituals, toys and dolls, clothing and accessories, textiles, home and kitchen, transportation, education, other.

Practical difficulties arise often for the choice of items to include in non-food consumption. The rule of thumb is that only items that contribute to the consumption are to be included. For instance, clothing, footwear, beauty articles and recreation are included. Others such as taxes are commonly excluded because they are not linked to higher levels of consumption: households paying more taxes are not likely to receive better public services.

The case for lumpy or infrequent expenditures like marriages, dowries, births and funerals is more difficult. Given their sporadic nature, the ideal approach would be to spread these expenses over the years and thus smooth them out, otherwise the true level of welfare of the household will probably be overestimated. Lack of information prevents us from doing that, so they are left out from the estimation. Finally, remittances given to other households are better excluded. The rationale for this is to avoid double counting because these transfers almost certainly are already reflected in the consumption of the recipients. Hence including them would increase artificially living standards.

Two non-food categories deserve special attention: education and health. In the case of education there are three issues to consider. First, some argue that if education is an investment, it should be treated as savings and not as consumption. Benefits from attending school are distributed not simply during the school period but during all years after. Second, there are life-cycle considerations: educational expenses are concentrated in a particular time of a person's life. Say that we compare two individuals that will pay the same for their education but one is still studying while the other finished several years ago. The current student might seem better off but that result is just related to age and not to true differences in welfare levels. One way out would be to smooth these expenses over the whole life period. Third, we must consider the coverage in the supply of public education. If all population can benefit from free or heavily subsidised education and the decision of studying in private schools is driven by quality factors, differences in expenditures can be associated with differences in welfare levels and the case for their inclusion is stronger. Standard practice was followed and educational expenses were included in the consumption aggregate. Excluding them would have made no distinction between two households where there are children of pre-school age but only one had been able to send them to pre-school.

Health expenses share some of the features of education. Expenditures on preventive health care could be considered as investments. Differences in access to publicly provided services may distort comparisons across households. If some sectors of the population have access to free or significantly subsidised health services, whereas others have to rely on private services, differences in expenditures do not correspond to differences in welfare. But there are other factors to take into account. First, health expenditures are habitually infrequent and lumpy over the reference period. Second, health may be seen as a "regrettable necessity", i.e. by considering in the welfare indicator the expenditures incurred by a household member that was sick, the welfare of that household is increased when in fact the opposite has happened. Third, health insurance can also distort comparisons. Insured households may register small expenditures when some member has fallen sick, while uninsured ones bigger amounts. It was decided to include health expenses because, as in the case of education, their exclusion would imply making no distinction between two households, both facing the same health problems, but only one paying for treatment.

The second difficulty regarding non-food consumption is related to the election of the recall period. The key aspect to consider is the relationship between recall periods and frequency of purchases. Many non-food items are not purchased frequently enough to justify a weekly or monthly recall period, exceptions being for instance toiletries, beauty articles and payment of utilities, hence generally recall periods are the last quarter or the last year. The recall period is different for different items. The recall period is last thirty days before interview for those items which are most frequently used by the household and last month before interview for those items which are relatively less frequently consumed. The recall period is last year from interview for items which are occasionally purchased and consumed. When the expenditure of these items is aggregated, they are homogenised in monthly terms.

F.2.3 Utilities

The final non-food component that justified special attention was energy, meaning basically expenditures on heating and electricity. Kazakhstan is a country that endures extreme weather conditions; this means that heating becomes a basic and essential necessity for households all over the country, and in some cases it could be a very significant and important component of their consumption. The evaluation collects both information on purchases and self-reported valuations of goods and services obtained for free in the consumption module and on monthly household expenses for electricity, gas, hot water, waste disposal in a specific module. Information for both modules is combined to obtain housing utilities consumption.

F.2.4 Housing and durable goods

Housing conditions are considered an essential part of people's living standards. Nonetheless, in most developing countries limited or nonexistent housing rental markets pose a difficult challenge for the estimation and inclusion of this component in the consumption aggregate. As in the case of durable goods, the objective is to try to measure the flow of services received by the household from occupying its dwelling. When a household rents its dwelling, and provided rental markets function well, that value would be the actual rent paid. In Kazakhstan, the housing value for households who own their dwelling cannot be determined based upon on information from renters because very few cases reported renting their dwellings. Therefore, we decided to exclude the flow of services received by the household from occupying its dwelling from the consumption of the household for all the households in the sample.

Another component of the welfare of the households that we were not able to include in our estimate of consumption aggregates is the welfare deriving from durable goods. Given that these goods last typically for many years, the expenditure on purchases is not the proper indicator to consider. The right measure to estimate, for consumption purposes, is the stream of services that households derive from all durable goods in their possession over the relevant reference period. This flow of utility is unobservable but it can be assumed to be proportional to the value of the good. The CCT impact evaluation collected information on purchase of durable goods in the previous month, three months, and in the previous year but did not collect specific information on the current value and age of durable goods purchased and already owned by the household. Therefore, our consumption aggregate estimate includes neither the flow of services from durable goods as we were not able to compute it properly nor the value of durable goods purchased by the household since, as said, this is not the proper indicator to consider.

F.2.5 Price adjustment

The two rounds of the impact evaluation have been conducted over an extended period of time and, consequently, households face different prices across rayons and okrugs over the period. Therefore, in order to properly measure living standards, expenditure values for each of the two rounds of the survey need to be corrected for such differences using intra-survey price indices. A price index consists of two components: prices and budget shares that attach the proper weights to prices. It follows price indices will vary because of differences in prices or in consumption patterns.

The household survey provides information on budget shares for all items but information on average prices paid by the household only for food items. A Paasche price index at the cluster level was constructed combining information from the impact evaluation and the national consumer price index. Clusters were comprised on average of 11.8 households at baseline. Households within a cluster are likely to face similar prices and have similar consumption patterns. The Paasche price index for the primary sampling unit is obtained with the following formula:

$$p_i^{\,P} = \left[\sum_{k=1}^{n} w_{ik} \left(\frac{p_{ik}}{p_{0k}} \right)^{-1} \right]^{-1}$$

where k is one of the n goods considered for the index,
w_{ik} is the budget share of good k in the primary sampling unit i,
p_{ik} is the median price of good k in the primary sampling unit i, and
p_{0k} is the national median price of good k.

In the case of food, average budget shares for each food item were matched with the average prices paid. In the case of non-food, the average non-food shares were provided by the survey itself, whereas the average price was provided by national non-food indices. The Agency of Statistics of the Republic of Kazakhstan provides price indices for the following categories of items: clothing and footwear; housing, water, electricity, gas and other fuels; furnishings, household equipment and routine household maintenance; health; transport; communication; recreation and culture; education; restaurants and hotels; miscellaneous goods and services. To exploit all the available information we divided non-food items available from the impact evaluation into groups corresponding to the above listed categories and computed non-food share for each sub-group of items.

In addition to correcting for inflation within a survey round, we also need to take into account of inflationary pressures between baseline and follow-up. To compute inter-survey inflation we turn again to the Paasche price index. For food items, the Paasche price index is obtained with the following formula:

$$p^P = \left[\sum_{k=1}^{n} w_{t0k} \left(\frac{p_{t0k}}{p_{tk}} \right)^{-1} \right]^{-1}$$

where k is one of the n goods considered for the index, w_{t0k} is the mean budget share of good k at baseline, p_{t0k} is the mean price of good k at baseline; and p_{tk} is the mean price of good k at follow-up.

We used the Agency of Statistics of the Republic of Kazakhstan's monthly non-food consumer price index to compute non-food inflation for our survey. Then, we combined food inflation and non-food inflation weighted by food and non-food shares of consumption at follow-up respectively to get the overall inter-survey inflation. Finally, we used inter-survey inflation to deflate follow-up consumption expenditure estimates by the inflation rate between baseline and follow up surveys.

F.2.6 Household composition adjustment

The final step in constructing the welfare indicator involves going from a measure of standard of living defined at the household level to another at the individual level. Ultimately the concern is to make comparisons across individuals and not across households. Consumption data are collected typically at the household level, so computing an individual welfare measure generally is done by adjusting total household consumption by the number of people in the household, and assigning that value to each household member. Common practice when doing this is to assume that all members share an equal fraction of household consumption; however, as will be explained later, that is a very particular case.

Two types of adjustments have to be made to correct for differences in composition and size. The first relates to demographic composition. Household members have different needs based mainly on their age and gender, although other characteristics can also be considered. Equivalence scales are the factors that reflect those differences and are used to convert all household members into “equivalent adults”. For instance, children are thought to need a fraction of what adults require, thus if a comparison is made between two households with the same total consumption and equal number of members, but one of them has children while the other is comprised entirely by adults, it would be expected that the former will have a higher individual welfare than the latter. Unfortunately there is no agreement on a consistent methodology to calculate these scales. Some

are based on nutritional grounds—a child may need only 50% of the food requirements of an adult—but it is not clear why the same scale should be carried over to non-food items. It may very well be the case that the same child requires more in education expenses or clothing. Others are based on empirical studies of household consumption behaviour, although with more analytical grounds, they do not command complete support either.

The second adjustment focuses on the economies of scale in consumption within the household. The motivation for this is the fact that some of the goods and services consumed by the household have characteristics of “public goods”. A good is said to be public when its consumption by a member of the household does not necessarily prevent another member from consuming it too. Examples of these goods could be housing and durable goods. For example, one member watching television does not preclude another from watching too. Larger households may spend less to be as well-off as smaller ones. Hence, the bigger the share of public goods in total consumption, the larger the scope for economies of scale. In contrast private goods cannot be shared among members: once they have been consumed by one member, no other can. Food is the classic example of a private good. It is often pointed out that in poor economies, food represents a sizeable share of the household budget and therefore in those cases there is little room for economies of scale.

Both adjustments can be implemented using the following approach:

$$AE = (A + \alpha K)^{\theta}$$

where AE is the number of adult equivalents of the household, A is the number of adults, K the number of children, α is the parameter that measures the relative cost of a child compared to an adult and θ represents the extent of the economies of scale. Both parameters can take values between zero and one. It is been reported that in developing countries, children are relatively cheaper than adults, perhaps with values of α as low as 0.3, while in developed ones values are closer to one. At the same time, in poorer economies food is often the most important good in the household consumption, and given that is a private good, the budget share of public goods is limited and so is the scope for economies of scale, perhaps with θ close to 1, whereas in richer countries around 0.75.

It was mentioned that standard practice is to use a per capita adjustment for household composition and that is also followed here. This is a special case of the above formulation, it happens when α and θ are set equal to one, so children consume as much as adults and there is no room for economies of scale. In other words, all members within the household consume equal shares of the total consumption and costs increase in proportion to the number of people in the household. In general, per capita measures will underestimate the welfare of households with children as well as larger households with respect to families with no kids or with a small number of members respectively.

In this report, the household has been adjusted using the "OECD-modified scale". This equivalence scale, first proposed by Haagenars et al. (1994), assigns a value of 1 to the household head, of 0.5 to each additional adult member and of 0.3 to each child. A more simplistic approach is to make only adjustments in household size for economies of scale (A and α are equal to one). This is the approach in the equivalence scale used by Kazakhstan National Statistical Agency, based solely on household size, defined in Table F.1.

Table F.1 National Statistical Agency equivalence scale

Household size	Equivalent household size	Implied Economies of Scale
1	1.00	
2	1.69	0.758
3	2.16	0.701
4	2.81	0.746
5	3.767	0.824
6	3.767	0.740
7	3.767	0.682
8 or more	3.767	0.638 (for 8)

Source: National Statistical Agency.

F.3 Basic poverty measures

The simplest aggregation of individual poverty statistics is the headcount measure, which counts the number of individuals in poverty in the sample. In addition to the simple headcount measure, it is also instructive to calculate both the **Poverty Gap Index** and the **Severity of Poverty Index**, both of which are of the *Foster, Greer and Thorbecke* (1984) class of poverty measures.

Poverty gap index

The poverty gap index measures the gap between the living standards of those people identified as poor and the poverty line, as a proportion of the poverty line. The poverty gap is by definition 0 if the individual is above the poverty line, while for individuals in poverty, is defined as:

$$P_1 = \frac{1}{N}\sum_{i=1}^{n}\left\{\frac{z - y_i}{z}\right\}$$

Where: N = total population
y_i= per adult equivalent consumption expenditure of individual *i*
z = poverty line

This measure therefore allows one to analyse the average shortfall of people from the poverty line, i.e. it shows how much would have to be transferred to these individuals on average to bring their expenditure up to the poverty line.

Severity of poverty index

The severity of poverty index is similar to the poverty gap index, except that the gaps are squared. As the poverty gaps are squared it will give the highest weighting to those individuals with the largest gap to the poverty line. Using the same notation as above, the severity of poverty index, for poor individuals, is mathematically defined as:

$$P_2 = \frac{1}{N}\sum_{i=1}^{n}\left\{\frac{z - y_i}{z}\right\}^2$$

The severity of poverty index allows the researcher to not only identify the distance separating the poor from the poverty line but also to identify inequality amongst the poor.