

CASH TRANSFER PROGRAMME FOR ORPHANS AND VULNERABLE CHILDREN (CT-OVC), KENYA

OPERATIONAL AND IMPACT EVALUATION, 2007–2009

Final report

Patrick Ward, Alex Hurrell, Aly Visram, Nils Riemenschneider, Luca Pellerano, Clare O'Brien, Ian MacAuslan and Jack Willis



Oxford
Policy
Management

July 2010

Acknowledgements

The authors would like to thank the many individuals who have contributed to undertaking the evaluation and producing this report. They include: the staff of the Department for Children's Services in the Ministry of Gender, Children and Social Development, (particularly Daniel Nzei Musembi and Samuel Ochieng); Unicef (particularly Carlos Alviar, Ashu Handa, Ben Davies, Henry Misiani and Esther Nyausi); Ayala Consulting (particularly Francisco Ayala); the World Bank (particularly Mike Mills and Bill Wiseman); and DFID (particularly Belinda Chesire and Leigh Stubblefield). They provided valuable comments, direction and information at various key points. We would like to thank the staff members and consultants of Research Solutions, both past and present, who undertook the quantitative and qualitative fieldwork, often under challenging conditions, and who also managed the data processing. They include: Teresa Oino, Jane Mugo, Anthony Wandera, Peris Nangalama, Ngigi Njuguna, Victor Otweyo, Mugwe Njuguna, Maryfaith Vutale, Daksha Shah. Thanks are extended to Matt Gordon and Juan Muñoz, who contributed to the design and implementation of the baseline survey, and to the respondents who generously gave their time for interviews. We would like to thank the participants at workshops in Nairobi undertaken to present the draft baseline findings (in May 2008) and draft final results (in February 2010). Valuable comments were also provided through the peer review process by Ludovico Carraro and Ingo Outes-Leon, with additional contributions made by Valentina Barca, James Hargreaves, Tansy Edwards and John Kruger. All opinions expressed, and any mistakes, remain the responsibility of the authors.

Executive summary

Kenya has been seriously affected by the HIV/AIDS epidemic. It has increased the number of orphans in the country and also the vulnerability of affected households, both through the loss of productive adults and through the impact of chronic illness. In response, the Department of Children's Services (DCS) in the Ministry of Gender, Children and Social Development, with assistance from UNICEF, developed the Cash Transfer Programme for Orphans and Vulnerable Children (CT-OVC). After a small pre-pilot phase, a second larger pilot phase was initiated in seven districts in 2006. At the same time, the Government of Kenya expanded the Programme in other districts to an additional 30. The Programme expanded further in 2008/09, with a total of 30,315 households having received financial support by mid-2009. Additional expansion is planned, the eventual target being to support 100,000 households by 2012.

The objectives of the Programme were clarified as Phase 2 progressed. Its overall objective is to:

Provide a social protection system through regular and predictable cash transfers to families living with OVCs [orphans or vulnerable children] in order to encourage fostering and retention of OVCs within their families and communities, and to promote their human capital development.

The latter includes, specifically: to increase enrolment and attendance in basic school; to reduce the rates of mortality and morbidity in children aged five years and under, particularly through increasing the uptake of immunization, growth control and vitamin A supplements; to promote household nutrition and food security; to increase civil registration of children and caregivers; and to improve household knowledge and appropriate case management for individuals with HIV/AIDS through coordination with other service providers.

An important additional objective of Phase 2 of the Programme has been to undertake a rigorous evaluation. To that end, an independent evaluation was commissioned from Oxford Policy Management (OPM); this is its final report. The evaluation operated in the seven UNICEF/DFID-supported districts. Its focus has been to evaluate the **impact** of the Programme on recipient households; to assess the **operational effectiveness** of the Programme implementation systems; and to assess the **cost** of the Programme in the light of its effectiveness. The evaluation was also asked to determine the impact and cost of **imposing conditions with penalties** on recipients.

The evaluation undertook a quantitative survey of households and communities at baseline and follow-up, with an additional survey of basic schools in the follow-up survey. The baseline fieldwork was undertaken between March and August 2007, and the follow-up between March and July 2009. Qualitative data collection took place through focus groups and in-depth individual interviews; this was undertaken in 2008 and again in 2009. A costing study was undertaken in 2009.

The impact evaluation was based on a comparison of Programme recipients with a group of controls, interviewed before the Programme began and again two years later. Impact is assessed by comparing changes in the various measures of the welfare of recipients (such as consumption or school enrolment) with changes observed amongst the control households. In this way, the information on the control households is used to allow for any other changes that the population, in general, may experience that have nothing to do with the Programme. A sample of non-recipient households was included to assess the targeting

of the Programme. At follow-up, an additional component of the questionnaire asked recipients about various aspects of Programme operations, providing the information for the operational evaluation.

The evaluation took place in the seven districts that had already been identified by the Programme. In each district, two locations were randomly selected to benefit from the Programme intervention, and two acted as controls. In three districts and one sub-location of Nairobi, the Programme decided to impose conditions with penalties; in the remainder, there was no systematic monitoring of compliance with conditions and no penalties were imposed. For the evaluation, recipient households were sampled from a list supplied by the Programme. Other households were sampled from a household listing undertaken in a random sample of census enumeration areas. A total of 2,759 households were included in the baseline sample; of these, 2,255 were interviewed again at follow-up. The analysis is weighted for differential selection probabilities.

The evaluation assessed the targeting effectiveness of the Programme. It examined the characteristics of recipients and the use of the transfer. It also described the operation of (post-targeting) Programme systems. It evaluated the impact of the Programme against its stated objectives, and assessed its cost.

Targeting

The **targeting** analysis examines the effectiveness with which the Programme identified and enrolled its target group, and how that group compares with other households. It updates the analysis presented in the baseline report to incorporate the households that were enrolled into the Programme after the baseline survey.

The Programme targets households with OVCs, who are defined as children who are orphans (one or both parents dead); or chronically ill; or re looked after by a carer who is chronically ill. The Programme was not intended, primarily, to address poverty, but decided to support poor OVC households in the face of limited resources.

The Programme initially covered only 21 per cent of OVC households in evaluation areas but, after the second enrolment, covers slightly over half (51 per cent) of all OVC households, benefiting substantially more children. The analysis shows that the Programme was successful in enrolling its target population – some 96 per cent of beneficiary households meet the criteria. Only 4 per cent of beneficiary households were ineligible against the Programme's criteria, representing a very low level of leakage. It should be noted that the OVC status of the children is self-declared, and one lesson from the survey was that orphanhood status is not as simple a targeting criterion as it might first appear.

The targeting process is moderately pro-poor overall, transferring resources to poor households more progressively than universal programmes such as public health care, although it is somewhat less pro-poor than many comparable programmes in other countries. This is because OVC households are somewhat more likely to be poor than the population as a whole, and because the Programme's targeting within the OVC population is mildly pro-poor.

This represents a positive achievement. However, a poor OVC household has only a modestly higher chance (around 13 per cent) of being included in the Programme than an 'average' OVC household. The result is that many of the poorest OVC households in Programme areas are not supported by it, while some better-off households receive support. An estimated 43 per cent of the poorest OVC households in Programme areas are not

supported; while some 13 per cent of Programme recipients were in the top (best-off) consumption quintile. Community reports in the qualitative research reinforced the concern that many non-recipient households with OVCs were just as poor as (or poorer than) recipients, and that the targeting process did not enable omissions to be rectified by the community review process before the list of recipients was finalised.

These findings represent an equity concern that needs to be addressed by the Programme. While no targeting is perfect, the Programme's effective implementation of proxy-based targeting provides an encouraging basis for improvement, with measures that need not be overly costly or complicated. They include strengthening technical design features, such as calibrating the proxy-means test appropriately; revising the criteria for prioritising eligible households; and setting quotas that reflect the geographic distribution of poverty. Some implementation challenges, such as ensuring that no OVC households are left out of the selection process, can be addressed manageably. The specification of the poverty test as it was implemented at baseline has already been revised by the Programme: by addressing the remaining issues, the targeting performance of the Programme should be improved significantly.

The qualitative research also identified that new OVC households in Programme areas have been created since the targeting process, as carers have died or become ill, but these are unable to enter the Programme. This is a source of exclusion error. While it is recognised that there is an immediate trade-off between targeting new geographical areas and using resources to enrol new households in areas that already have the Programme, a mature social protection programme requires a system for keeping enrolment up to date.

Recipients and the transfer

The survey showed that the vast majority of **OVCs in the Programme** are orphans, with some 46 per cent being double orphans. Nearly all OVCs are cared for by a relative, most commonly grandparents or the remaining parent. The proportion of OVCs in recipient households who are male appears to be slightly higher than would be expected, raising questions about whether girls are less likely to enter the Programme. OVCs, and all children in OVC households, have an older age distribution than that of all children, so that Programme resources will tend to be directed away from the youngest age groups in the population.

The vast majority of initial **recipients** identified at baseline were still receiving payments from the Programme at the time of the follow-up, with just 3 per cent having left the Programme. The main reason for leaving the Programme was due to the OVC reaching the age of 18 years, although it was found that a surprising proportion of those who left, and also community-level Programme workers, do not know why these OVCs have exited from the Programme.

The recipients of the transfer (main caregivers) are generally women heads of the household. In some 92 per cent of the cases, it is the main caregiver who decides how to use the transfer, either alone or in consultation with other adults in the household. While (generally female) caregivers feel more empowered because they have more money to spend, they do not report changes in their empowerment in relation to other household members, suggesting the payments are not bringing about any changes in the fundamental relationships within the household. The majority of households pool resources from other income sources with the transfer, so it is generally reported to benefit all household members.

The **value of the transfer** is considerable in relation to household consumption levels. With a mean number of adult equivalents in recipient households of 4.4, the transfer was worth an average of Ksh 344 per adult equivalent. This represented some 22 per cent of the average (per adult equivalent) consumption levels at baseline. However, the ‘effective’ value of the transfer – and, hence, its potential impact – varies with the size of the household. For example, the transfer is insufficient to cover the indirect costs of basic school education for more than two to three children. Amongst other things, this makes meeting Programme conditions more difficult for large households. Inflation has also eroded the real value of the transfer substantially over the two years preceding the final phase of the evaluation. When adjusted for price increases, the transfer is now worth a little over two thirds of its value in 2007. The Programme should consider indexing the value of the transfer to household size and making allowance for price inflation.

Programme operations

The evaluation found that many aspects of ongoing **Programme operations** are working well.

The payment system is ensuring **regular payments** to recipients, and there is no evidence of extensive ‘skimming’ from payments. Only 2 per cent of households report having to pay money to the Post Office staff, and the amounts paid are small for those who do. A slightly larger proportion of beneficiaries had to pay money to someone else in the community, with an average estimated cost of Ksh 109 to those who pay. Qualitative research did not generally find concerns about unofficial payments being made. Overall, unofficial payments are clearly not a large component of the total costs faced by households in obtaining their payments.

For most recipients, **travel times** are generally manageable. However, recipients in Garissa (and some other remote areas) face much longer journeys and higher costs. In Garissa, recipients spend an average 19.2 hours making a return trip, and 83 per cent have to spend at least one night out of their home. Overall, on average, they spend almost Ksh 1,500 on transportation, accommodation and food for every payment cycle, somewhat more than the Ksh 1,000 compensation for expenses received by them. As the Programme expands to other districts and more remote sub-locations, these issues are likely to recur and planning will be needed to resolve these issues. The cost of collecting the payment is much smaller outside Garissa, although it is still around 5 per cent of the transfer.

Other than with regard to Garissa, travel times to collect payments are generally more reasonable. Waiting times at the Post Office can still be considerable – well over two hours on average, overall, and over four hours in Garissa. Although most recipients feel safe collecting the payment, 11 per cent express security concerns. Most say that other community members know they are receiving the money and, in a number of places, this is publicly announced; 18 per cent consider this to be a problem. Qualitative research in relatively remote rural locations identified concerns about others knowing about the transfer, as recipients feared attack during the walk back after collecting the payment.

The weakest element of operations appears to be in the **communication** between the Programme and recipients. This is reflected in recipients’ knowledge about the Programme in general, and in case management.

Overall, 84 per cent of the current beneficiaries believe that they have to follow some sort of rules in order to continue receiving payments. This proportion was not significantly higher in the districts where transfer payments are conditional and carry penalties. Most of the

households refer to adequate food, nutrition and clothing as the main rule to abide by in order to receive the transfer, followed by attendance for basic schooling. The knowledge of health conditions is somewhat limited. Overall, most recipients are unaware of the full set of conditions with which they are expected to comply.

In addition, more than three quarters of recipients in areas where penalties are applied do not know that this is the case: only one third of those who had actually had a deduction made from their payment knew the reason for it; the remainder of recipients do not seem to know it was a penalty fine. Overall, it is clear that many of the beneficiaries have not yet been reached with communications about the penalties.

The **monitoring of conditions** is in need of strengthening, particularly in the health system. Staff turnover means that knowledge of how to complete forms is not universal, in either health or education. Enforcing compliance with health service utilisation conditions has proved difficult to implement in practice because the form-filling is onerous, the logistics complicated, and individuals can use multiple facilities. In practice, staff seem to have focused expectations on immunisation rather than other aspects of health service utilisation.

The qualitative study found various instances of effective **case management** – that is, conveying information between recipients (and non-recipients) and the Programme. This often depends on the actions of particular community members, acting voluntarily, and is therefore dependent on their knowledge, goodwill and enthusiasm. Recipients tend to depend strongly on such people for their interaction with the Programme, including obtaining, filling out and returning updated forms (for changes of school, new fostering and so on). In cases where there is no such volunteer, recipients may not fill out forms and penalties could result. The role of ‘community volunteer’ should be supported and institutionalised within the Programme, with terms of reference, training and some payments, at least to cover costs.

Complementary services were not offered in a systematic way, and were usually restricted to awareness sessions that anybody could attend. In some areas, non-governmental organisations (NGOs) were also working with OVCs, but there was rarely significant collaboration. Programme staff suggested that much more could be done, including training in income generation, to maximise the use of the money; voluntary counselling and testing for HIV/AIDS; clinics outside post offices (where no services are currently offered); education around family planning; and information on parenting for caregiving grandparents.

Impact of the programme on child and household welfare

The impact of the Programme was assessed on a range of indicators, the impact on household consumption and poverty, together with a number of measures of child welfare. These included enrolment in basic and secondary schooling, attendance and progression; the uptake of health services, such as immunisation and growth monitoring; anthropometric measures; child work; and birth registration. Most of these indicators were directly related to Programme objectives, although some reflected additional areas of importance.

Impact was assessed in two ways. Initially, a crude measure of impact was calculated. This is the difference in the change observed in the Programme areas and the change observed in the control areas – identified as ‘difference-in-differences’ estimates. This measure allows for a number of factors that could make simpler comparisons misleading, such as differences between recipient areas and control areas on a particular indicator before the Programme began. A second analysis used modelling for selected indicators to check whether there is any impact after adjusting for differences between recipients and controls. Assessing the

impact of the Programme is complex, and the findings are sometimes sensitive to the method used. Nevertheless, the overall conclusions seem reasonably clear.

The impact of the Programme to date has been mixed, with a number of areas showing substantial positive impact, while others do not.

Cash transfers from the Programme have increased the **real household consumption levels** of recipient households substantially – by some Ksh 274 per adult equivalent. The result is a reduction of **poverty levels** by some 13 percentage points. The benefit of increased consumption is concentrated in smaller households, since the value of the transfer (per capita) is diluted in larger households, reinforcing the case for indexing the payments in some way to household size.

The Programme has also increased **food expenditure** and **dietary diversity**, significantly increasing the frequency of consumption of five food groups – meat, fish, milk, sugar and fats. A simple dietary diversity score is increased by 15 per cent from the baseline. The extra income has also translated into increased household ownership of a number of assets, including mosquito nets, and beneficiary households are more likely than controls to hold savings. However, there has been no increase in livestock holdings, suggesting beneficiary households are not investing any of the transfer in (livestock) farming activities.

Mean health expenditure does not appear to have increased in Programme areas in real terms, although the analysis shows an impact due to a decline in this measure in control areas, possibly reflecting budget constraints. In contrast, mean education expenditure per child has increased significantly in Programme areas and declined slightly in control areas, although the net difference is not significant.

There has been a decline of over 10 percentage points in the proportion of Programme **households reporting receiving assistance** from other households, other members of the community or organisations. This no doubt reflects a perception that these households are less needy now that they receive support from the Programme, as would be expected.

The evaluation did not find evidence of increased enrolment or attendance in **basic schooling**, with around 88 per cent of children aged six to 13 years in Programme and control areas attending at follow-up, and no appreciable increase over the period of the Programme. It might be that the 12 per cent of children who do not attend basic schooling are constrained by other factors, including access to schools and cultural factors, which the Programme has not addressed. There is some weak evidence that the Programme may have increased enrolment in the youngest children. There does not appear to be a positive impact on attendance, which was already high, or on class repetition.

However, there appears to have been an impact on **secondary school enrolment** in older children, with an increase six to seven percentage points larger than in the control areas. This is surprising, since it is not an objective or a condition of the Programme. It is possible that secondary school attendance is more often limited by cash, since fees are substantial, and the payments help families meet these costs. The models suggest that the impact was significant for poorer households and for boys, although girls in poorer households also appear to have benefited. The Programme does not appear to have had any impact on the proportion of children attending nursery school, which has increased in both Programme areas and control areas.

Overall, there is no evidence that the Programme has had an impact on child **health indicators**. Vitamin A supplementation has increased significantly in Programme areas (by

10 percentage points), although impact estimates are not significant. A number of the other health estimates are indicating a move in the right direction, but are also not statistically significant. The models find evidence of an impact on reducing the frequency of illnesses, and of an increase in poorer households in the proportion of children consulting an appropriate source of care when sick, which is encouraging.

The proportion of children **fully immunised** is in decline in all areas, significantly so in Programme areas, which appears to be due to a decline in polio and DPT (diphtheria, pertussis (whooping cough) and tetanus) coverage. There is no evidence of an impact on the uptake of growth monitoring, despite being a Programme stipulation. The Programme has not had an impact on the **nutritional status** of children, although the results need to be treated with some care due to data limitations.

The analysis of health indicators was based on relatively small samples, and it is possible that some of the impact estimates would have been significant with a larger sample. Some, such as anthropometric status, will reflect complex and multiple influences, and may take time to change. However, others might be expected to be more quickly responsive to the Programme, particularly the use of preventive services. They remain an appropriate objective for the Programme, which should seek to address their limited uptake.

The programme has substantially increased the ownership of **birth certificates or registration forms** for children, with a (crude) 12 percentage point increase over the controls. Surprisingly, it does not appear to have increased the ownership of identity cards by carers.

The Programme also appears to have reduced the extent of **child work**. The proportion of children aged six to 13 years reported to be doing paid work has declined in Programme areas, which translates into a reduction of three percentage points attributable to the Programme. The average amount of time spent on unpaid work is also reduced, by an average of almost four hours per week. The latter benefits both boys and girls, and households that were poorer at baseline, although the findings are not always consistent between models.

The household and community surveys showed that OVCs are almost entirely **retained within the extended family and the community** in both Programme and control areas. This was already almost universal before the Programme began to operate, based on existing social norms, and there is no impact of the Programme on the process. There are no significant changes in the mean number of orphans or OVCs in survey households, either in Programme or control areas. However, the Programme supports the process, making it easier for households to maintain their standard of living and to care for OVCs.

The analysis shows that impact of the Programme on consumption levels affects **smaller households** much more than larger households, as would be expected with a fixed value per household. An examination of the impact on other indicators by household size shows a variable pattern, however. For a number of indicators, the impact of the Programme is larger, or is only significant for **poorer households**. Poorer households benefit from the improvements in secondary school enrolment, where girls appear to benefit as well as boys. Reductions in the frequency of paid and unpaid child work are concentrated in poor households. The analysis also suggests that the Programme may have contributed to reducing the incidence of cough and fever, and to increasing the use of appropriate sources of care, in poorer households. In contrast, the increase in birth certificates appears to benefit better-off households. These results strengthen the case for effective targeting of benefits at poorer households and for considering indexing payments to household size.

Limitations to the design of the evaluation and in the implementation of **conditions with penalties** mean that little can be said with confidence about their effect. Some analysis was undertaken by comparing outcomes between districts with and without these penalties. In addition, due to households' incomplete knowledge of the penalties, comparisons were made between households that knew about the penalties associated with the conditions and households that did not. Overall, the analysis did not find any evidence of an impact, once other factors were taken into account through the modelling, but this must be considered as only indicative. Imposing conditions with penalties might still be considered as a possible tool, in the light of the limited progress in increasing the utilisation of basic schooling and health service to date.

Programme costs

In the three financial years from July 2006 to June 2009, the CT-OVC Programme spent some KSh 776.7 million (\$9.96 million) in the seven pilot districts, according to information provided. The number of recipients increased over this period to around 15,000 households. Some 49 per cent of known Programme expenditure has reached the households in the form of the cash transfer over the period analysed. This is lower than some larger, more efficient programmes, but represents only the initial start-up phase of the Programme. The proportion has increased over the period analysed, and it is likely that it will rise further in the medium term.

Around 77 per cent of non-transfer costs have been spent by the DCS in Nairobi, in part because consultancy fees are registered there. The share of spending at district level has increased over the period, as would be expected. About 50 per cent of all costs, excluding the transfers to households, have been spent on the start-up and roll-out activities, which were concentrated in the first two years of the Programme. The identifiable costs of monitoring compliance with conditions appear to be very small to date, although this may not be an accurate reflection of what the full costs might be.

The total expenditure per transaction is therefore KSh 6,163 (equivalent to around \$79). It currently costs around KSh 36,978 (\$474) per annum per household supported, including the transfer. Expanding the Programme to cover the poorest 25 per cent of OVCs in Kenya at this unit cost would imply a total Programme cost of around KSh 8.7 billion per annum. This represents around 0.3 per cent of total gross domestic product (GDP), or about 1 per cent of government expenditure. This suggests that it ought to be financially sustainable. In practice, the unit cost may be lower, although some of the recommendations made in this report would imply increases in costs.

Conclusions and recommendations

The Programme is succeeding in providing regular cash transfers to thousands of households, with a payment system that works well and causes few complaints. There is a need to strengthen some other elements of operations, including communication, case management and the operation of penalties. Such teething problems would be expected as a programme starts up, develops systems and expands to cover increasing numbers of households.

The vast majority of the Programme's recipients are households with OVCs, although these households are not always the poorest in their communities. The targeting process is moderately pro-poor overall, due to OVC households being poorer than average. However, it

needs to be strengthened to improve the identification of the poorest OVC households where the Programme operates, since it currently misses many of them. The existing targeting mechanisms provide a strong basis with which to work, and it is encouraging that the Programme has already begun this process.

Since fostering and the retention of OVCs within their extended families and communities were already well-grounded in existing social norms, the Programme does not appear to increase their frequency. However, the Programme has substantially raised consumption and reduced poverty in recipient households, and so made it easier for them to maintain their living standards while caring for OVCs. The Programme should reconsider the fostering component of its objectives, and should focus on supporting existing processes and ensuring the welfare and development of OVCs, rather than on increasing the frequency of fostering *per se*.

Improving living standards in the face of extensive poverty and vulnerability is an important achievement. However, with the exception of some increases in secondary schooling, the Programme does not yet appear to have had a demonstrable impact on human capital development, which should contribute to reducing the incidence of poverty in the long term.

To date, the impact achieved in return for the Programme's expenditure is less than was hoped when the Programme was designed. However, the Programme is effective in delivering cash benefits that enhance the welfare of recipients, many of whom are poor children, and is responding to an important social need. Some of the human capital indicators will reflect multiple, complex determinants and may take longer to change. Nevertheless, it is appropriate for the Programme to identify strategies and resources to address whatever constraints there are to increasing enrolment for basic schooling and utilisation of the health service, given their importance to the Programme's objectives.

The evaluation also provides an opportune moment to reconsider the basic design elements of the Programme. It might consider, over the medium term, extending support to a much wider group of 'vulnerable' children, within the context of Kenya's overall social protection framework.

The **principal recommendations** identified by the evaluation are:

- **Strengthen the targeting process.** In addition to improving the poverty indicators used (as has been done), an appropriate geographical allocation of recipients should be ensured. The process itself should also ensure the identification of all potential recipients, and support an effective community validation process in which the initial list can be challenged. The appeals process should be made operational.
- Over the medium term, **develop permanent systems** for allowing newly orphaned and vulnerable children in Programme areas to be identified and admitted to the Programme after the initial registration has closed.
- **Plan for the mitigation of costs** faced in collecting the transfer by households living in remote areas before any further expansion takes place, building on the lessons from Garissa.
- **Strengthen the communication and case management processes** so that beneficiaries are fully informed of their rights and obligations. Part of this procedure should be to incorporate the community volunteers who deal with households more effectively into Programme processes through terms of reference, training and payments.

- **Information about the days when payments become available** at the post offices should be provided in a way that makes beneficiaries feel safe, possibly by word of mouth. Resources should be allocated to support this.
- **Consider indexing the value of the transfer** to household size and also for inflation.
- **Strengthen government financial systems** so that DFID funds do not need to be paid via Unicef, freeing up the management fee for other purposes.
- **Investigate the factors that are limiting the uptake** of basic schooling and health services, and develop strategies to address them.
- **Strengthen the complementary activities** in supplying households with information, education and communication in relevant areas, and additional services.
- If imposing **conditions with penalties** remains part of the Programme, their operation needs to be strengthened; the practical and motivational problems of monitoring preventive attendance at health facilities need to be addressed.
- **Ensure the next phase of monitoring and evaluation can provide information** on the effectiveness of any revisions.
- The Programme should consider whether it should, in the medium term, **extend support to a much wider group of children** classed as vulnerable, of which orphans would be only one sub-group. This should be considered within the context of Kenya's overall social protection framework and the protection for children that it intends.

Table of contents

| | |
|---|----|
| Executive summary | ii |
| List of tables and figures | xv |
| Abbreviations | xx |
| 1 Introduction | 1 |
| 1.1 The Cash Transfer Programme for Orphans and Vulnerable Children | 1 |
| 1.2 The evaluation | 4 |
| 1.3 The baseline and follow-up surveys | 7 |
| 1.4 Limitations | 9 |
| 1.5 Contents of the report | 10 |
| 1.6 Terminology and definitions | 10 |
| 2 Targeting of the Programme | 12 |
| 2.1 The targeting process | 12 |
| 2.2 Targeting analysis | 14 |
| 2.3 Targeting results in context | 21 |
| 2.4 Conclusions | 24 |
| 3 Operation of the Programme | 26 |
| 3.1 Programme recipients | 26 |
| 3.2 Programme operational effectiveness | 32 |
| 3.3 Conclusions | 40 |
| 4 Impact of the Programme on individuals and households | 42 |
| 4.1 Estimating the impact of the Programme | 42 |
| 4.2 Programme impact | 44 |
| 4.3 Impact of Programme conditions | 56 |
| 4.4 Conclusions | 58 |
| 5 The OVC Programme and the community | 61 |
| 5.1 Retention of OVCs in the family and community | 61 |
| 5.2 Community perceptions of the Programme | 67 |
| 5.3 Summary and conclusions | 68 |
| 6 The cost of the Programme | 69 |
| 6.1 Scope of analysis | 69 |
| 6.2 Method | 71 |
| 6.3 Expenditure flows | 71 |
| 6.4 Costs | 72 |
| 6.5 Cost of Programme expansion | 80 |
| 6.6 Recommendations for future costing work | 82 |
| 6.7 Conclusions | 82 |
| 7 Conclusions and recommendations | 83 |
| 7.1 Conclusions | 83 |
| 7.2 Principal recommendations | 87 |

| | | |
|------------|--|-----|
| Annex A | Quantitative survey: Sampling strategy | 89 |
| Annex B | Summary of findings from the qualitative studies | 99 |
| Annex C | Additional tables | 130 |
| Annex D | Anthropometric analysis | 144 |
| Annex E | Measuring consumption expenditure | 153 |
| Annex F | Impact evaluation: Details of model-based approach and results | 167 |
| Annex G | Costing: Outline of funding flows and assumptions | 236 |
| References | | 240 |

List of tables and figures

| | | |
|------------|--|----|
| Table 1.1 | Number of households interviewed, by group and year of survey | 9 |
| Table 2.1 | Leakage to ineligible households | 16 |
| Table 2.2 | Programme coverage | 18 |
| Table 2.3 | Recipient distribution and mean real monthly consumption expenditure, by expenditure quintile | 19 |
| Table 2.4 | Distribution of poorest OVC households and the initial recipient allocation | 21 |
| Table 2.5 | Comparative poverty rates: OVC households versus general population | 22 |
| Table 3.1 | Participation in the Programme, by type of household | 26 |
| Table 3.2 | Characteristics of beneficiary OVCs and their carers | 27 |
| Table 3.3 | Age distribution of children in OVC households and 2003 Demographic and Health Survey | 27 |
| Table 3.4 | Other characteristics of caregivers in recipient households | 28 |
| Table 3.5 | Use of the transfer | 29 |
| Table 3.6 | Comparison of real transfer value with mean consumption expenditure | 30 |
| Table 3.7 | Value of cash disbursed per cycle in the evaluation Programme locations and estimates of additional costs through indexing | 32 |
| Table 3.8 | Payment collection: Transportation, expenditure and waiting time | 33 |
| Table 3.9 | Missed payment cycles | 34 |
| Table 3.10 | Alternative recipients | 34 |
| Table 3.11 | Unofficial payments | 35 |
| Table 3.12 | Perception of beneficiaries on operational issues | 36 |
| Table 3.13 | Perceptions and information about conditionality | 37 |
| Table 3.14 | Implementation and enforcement of conditions | 38 |
| Table 4.1 | Household level welfare indicators | 44 |
| Table 4.2 | Food consumption indicators | 46 |
| Table 4.3 | Education indicators | 49 |
| Table 4.4 | School attendance using data collected from schools | 50 |
| Table 4.5 | Health and nutrition indicators | 52 |
| Table 4.6 | Other welfare indicators | 54 |
| Table 4.7 | Retention of OVCs in the household | 56 |
| Table 4.8 | Estimates of the effect of conditions on health indicators, crude difference-in-differences results | 57 |
| Table 4.9 | Estimates of imposing conditions on education indicators, crude difference-in-differences results | 58 |
| Table 5.1 | Care arrangements for children whose parent(s) died in the preceding 12 months, 2007 and 2009 | 63 |
| Table 5.2 | Care arrangements for single and double orphans whose parents died in the preceding 12 months, 2009 | 64 |
| Table 5.3 | Social norms in the case of the death of a parent, 2009 | 66 |
| Table 5.4 | Programme perceptions in treatment communities, 2009 | 67 |
| Table 6.1 | Total expenditure on seven districts by activity, 2006/07–2008/09 (Ksh and %) | 73 |

| | | |
|------------|---|-----|
| Table 6.2 | Total expenditure on seven districts by budget classification, 2006/07–2008/09 (Ksh) | 76 |
| Table 6.3 | Non-transfer costs by location, 2006/07 to 2008/09 | 77 |
| Table 6.4 | Transfers to households by location, 2007/08 and 2008/09 | 78 |
| Table 6.5 | Unit cost of expenditure | 78 |
| Table 6.6 | Hypothetical annual cost of an expanded Programme at \$474 per household per year | 81 |
| Table A.1 | Intended sample size, by population group | 89 |
| Table A.2 | Actual sample size by population group and district: Number of households at baseline | 90 |
| Table A.3 | Actual sample size, by population group and district number of households, at follow-up | 91 |
| Table A.4 | Predicting household consumption expenditure for the stratification of listed OVC households in control locations | 96 |
| Table A.5 | Predicted versus actual (WMS) consumption expenditure levels: All listed households, 2006 | 98 |
| Table 7.1 | Intended selection of locations | 106 |
| Table B.1 | Focus groups conducted | 107 |
| Table C.1 | Comparison between study (CT-OVC) and national populations: Key indicators | 130 |
| Table C.2 | Proportion of OVC households in the treatment locations satisfying each of the Programme's poverty indicators, by consumption quintile (%) | 132 |
| Table C.3 | Distribution of eligible households in the treatment locations, by priority ranking and location consumption tercile (%) | 133 |
| Table C.4 | Targeting scores for selected comparable programmes | 134 |
| Table C.5 | Poverty targeting of education and health public expenditure, 2005 | 135 |
| Table C.6 | Participation in the Programme, by type of household | 135 |
| Table C.7 | Characteristics of caregivers in OVC households | 136 |
| Table C.8 | Characteristics of OVC households on OVC criteria | 137 |
| Table C.9 | Characteristics of OVCs | 138 |
| Table C.10 | Basic socio-economic characteristics of OVC households | 139 |
| Table C.11 | Household ownership of productive assets | 141 |
| Table C.12 | Household sources of income | 142 |
| Table C.13 | Household saving behaviour | 143 |
| Table C.14 | Mean z-scores, children aged 0–59 months | 143 |
| Table D.1 | Data for z-score calculations | 148 |
| Table D.2 | Proportion of children stunted, wasted and underweight, unweighted (%) | 149 |
| Table D.3 | Mean and variance of z-scores for HAZ, WAZ and WHZ, by district | 149 |
| Table E.1 | Mean household consumption expenditure, per adult equivalent and budget shares | 154 |
| Table E.2 | Consumption and asset indicators | 159 |
| Table E.3 | Asset indicators by consumption quintile (baseline) | 161 |
| Table E.4 | Real monthly consumption expenditure per adult equivalent quintile cut-offs: All OVC households in evaluation locations (Ksh – 2007 prices) | 164 |

| | | |
|------------|--|-----|
| Table E.5 | Nominal monthly consumption expenditure per adult equivalent tercile cut-offs, by treatment location (Ksh) | 164 |
| Table E.6 | Proportion of households below the national poverty line | 166 |
| Table F.1 | Household attrition | 175 |
| Table F.2 | Children leaving and joining the sample | 176 |
| Table F.3 | Reasons for leaving the household, children aged 0–17 years | 177 |
| Table F.4 | Reasons for joining the household, children aged 0–17 years | 178 |
| Table F.5 | Impact on consumption and poverty | 183 |
| Table F.6 | Heterogeneous impact on consumption and poverty | 186 |
| Table F.7 | Impact on dietary diversity | 187 |
| Table F.8 | Heterogeneous impact on dietary diversity | 188 |
| Table F.9 | Impact on assets | 189 |
| Table F.10 | Impact on income sources and external support | 191 |
| Table F.11 | Heterogeneous impact on assets, income sources and external support | 192 |
| Table F.12 | Impact on basic school enrolment: Cross-sectional models | 193 |
| Table F.13 | Impact on basic school enrolment: Cohort models | 194 |
| Table F.14 | Heterogeneous impact on basic school enrolment | 195 |
| Table F.15 | Impact on secondary school enrolment: Cross-sectional models | 196 |
| Table F.16 | Impact on secondary school enrolment: Cohort model | 196 |
| Table F.17 | Heterogeneous impact on secondary school enrolment | 197 |
| Table F.18 | Impact on school attendance: Cross-sectional models | 198 |
| Table F.19 | Impact on school attendance: Cohort models | 198 |
| Table F.20 | Impact on child labour: Cross-sectional models | 199 |
| Table F.21 | Impact on hours worked: Cross-sectional models | 200 |
| Table F.22 | Impact on child labour: Cohort models | 201 |
| Table F.23 | Heterogeneous impact on child labour | 201 |
| Table F.24 | Impact on nutrition: Cross-sectional models | 202 |
| Table F.25 | Impact on nutrition: Cohort models | 204 |
| Table F.26 | Impact on health: Cross-sectional models | 205 |
| Table F.27 | Impact on health: Cohort models | 205 |
| Table F.28 | Heterogeneous impact on health | 206 |
| Table F.29 | Impact on birth registration: Cross-sectional models | 207 |
| Table F.30 | Heterogeneous impact on birth registration | 208 |
| Table F.31 | Basic specification: Household and community level control variables (baseline) | 208 |
| Table F.32 | Basic specification: Child-level control variables (baseline) | 211 |
| Table F.33 | Baseline differences in child-level outcome | 212 |
| Table F.34 | Comparison of probit and linear probability model estimated effects: Selected outcome | 214 |
| Table F.35 | Selection model: A versus B | 215 |
| Table F.36 | Household attrition: Comparison of households characteristics at baseline | 217 |
| Table F.37 | Individual-level panel changes: Baseline characteristic of children aged 0–17 years leaving the sample | 219 |

| | | |
|-------------|---|-----|
| Table F.38 | Individual-level panel changes: Follow-up characteristic of children aged 0–17 years joining the sample | 220 |
| Table F.39 | Cross-sectional models accounting for individual mobility: Selected outcomes | 220 |
| Table F.40 | Comparison of alternative options to account for clustered standard errors: Selected outcomes | 222 |
| Table F.41 | Comparison of weighted and unweighted cross-sectional models: Selected outcomes | 223 |
| Table F.42 | Conditions: Baseline differences in household and community level control variables (As only) | 224 |
| Table F.43 | Conditions: Baseline differences in child-level control variables (As only) | 226 |
| Table F.44 | Perceptions of Programme design: Baseline differences in household and community level control variables (As only) | 227 |
| Table F.45 | Conditions and perceptions of Programme design: Baseline differences in child-level outcomes (As only) | 230 |
| Table F.46 | Impact of conditions of health and nutrition indicators | 232 |
| Table F.47 | Impact of conditions on education indicators | 233 |
| Table F.48 | Impact of conditions on household expenditure | 235 |
| Table G.1 | Differences between CT-OVC pre-pilot, pilot and expanded Programme phases | 237 |
| Figure 2.1 | Distribution of household consumption expenditure (monthly per adult equivalent), by recipient status | 17 |
| Figure 3.1 | Change in mean inflation-adjusted monthly transfer value received per household member, by household size, 2007 to 2009 (Ksh) | 31 |
| Figure 5.1 | Care arrangements reported for recent orphans, 2009 | 63 |
| Figure 5.2 | Care arrangements for single orphans, 2009 | 65 |
| Figure 5.3 | Care arrangements for double orphans, 2009 | 65 |
| Figure D.1 | Height in cm (follow-up) | 145 |
| Figure D.2 | Height in cm (baseline) | 146 |
| Figure D.3 | Weight in kg (follow-up) | 146 |
| Figure D.4 | Weight in kg (baseline) | 147 |
| Figure D.5 | Height for age z-scores (follow-up) | 150 |
| Figure D.6 | Height for age z-scores (baseline) | 150 |
| Figure D.7 | Weight for height z-scores (follow-up) | 151 |
| Figure D.8 | Weight for height z-scores (baseline) | 151 |
| Figure D.9 | Weight for age z-scores (follow-up) | 152 |
| Figure D.10 | Weight for age z-scores (baseline) | 152 |
| Figure E.1 | Distribution of real consumption expenditure per adult equivalent: full sample, all evaluation locations | 162 |
| Figure F.1 | Trimming the propensity score density | 171 |
| Figure F.2 | Imposing common support | 172 |
| Figure F.3 | Total household consumption and household size | 185 |
| Figure F.4 | Food consumption and household size | 185 |
| Figure G.1 | Partners and funding flows, Phase 2 pilot districts | 238 |

Abbreviations

| | |
|--------|--|
| AAC | Area Advisory Committee |
| A-in-A | Appropriations-in-Aid |
| CT-OVC | Orphans and Vulnerable Children Cash Transfer Programme |
| DCO | District Children's Officer |
| DCS | Department of Children's Services (MOGCSD) |
| DFID | UK Department for International Development |
| DHS | Demographic and Health Survey |
| DO | District Officer |
| DOSC | District OVC Sub-committee |
| DTP | Diphtheria, Pertussis (whooping cough) and Tetanus |
| EA | Enumeration Area |
| FGD | focus group discussion |
| GDP | Gross Domestic Product |
| GOK | Government of Kenya |
| KIHBS | Kenya Integrated Household Budget Survey |
| Ksh | Kenyan shilling |
| LOC | Location OVC Committee |
| MOGCSD | Ministry of Gender, Children and Social Development (Previously Ministry of Home Affairs – MOHA) |
| MOHA | Ministry of Home Affairs |
| NGO | Non-Governmental Organisation |
| OPM | Oxford Policy Management |
| OVCs | Orphans and Other Vulnerable Children |
| PCK | Postal Corporation of Kenya |
| PPS | Proportional to Population Size |

| | |
|--------|--------------------------------|
| UNICEF | United Nations Children's Fund |
| WMS | Welfare Monitoring Survey |
| WHO | World Health Organization |

1 Introduction

1.1 The Cash Transfer Programme for Orphans and Vulnerable Children

1.1.1 Background

Kenya is a country of around 38 million people, of whom around half are children, and many of whom are living in poverty. The crisis of HIV and AIDS has also worsened poverty in Kenya. The poverty of orphans and vulnerable children (OVCs) became the subject of discussion in the course of the parliamentary elections in 2002. Since then, the Government of Kenya has produced a National Policy and a National Plan of Action for OVCs, and is developing a general social protection strategy. The provision of direct cash transfers to families caring for OVCs under the CT-OVC Programme executed by the Ministry of Gender, Community and Social Development is an important component of both.

1.1.2 Programme objectives

The main objective of the CT-OVC Programme is to:

Provide a social protection system through regular and predictable cash transfers to families living with OVCs in order to encourage fostering and retention of OVCs within their families and communities, and to promote their human capital development.¹

The specific objectives cover:

Education

- Increase school enrolment, attendance and retention of children aged six to 17 years in basic schooling (up to standard 8).

Health

- Reduce the rates of mortality and morbidity among children aged five years and under, through immunization, growth control and vitamin A supplements.

Food security

- Promote household nutrition and food security by providing regular and predictable income support.

Civil registration

- Encourage caregivers to obtain identity cards within the first six months after enrolment; and
- Encourage caregivers to obtain birth certificates and identity cards for children.

Strengthening capabilities within the household

- Coordinate with other ministries and partners training on topics such as nutrition and health; and

¹ Operations Manual, Ministry of Gender, Community and Social Development, 2008.

- Provide guidance and refer cases related to HIV/AIDS, both to adults and children who are members of the households.

The Programme was developed under a framework of child rights and, if there were the resources, might potentially cover all OVCs. Resources are inevitably limited, and the decision was taken to target the Programme towards the poorest OVC households. However, the Programme is not intended primarily as an anti-poverty programme. For example, the selection of districts for the pilot was not based on poverty criteria. Nevertheless, it is important to consider how it contributes to poverty reduction, both as a component of improving the welfare of OVCs and as one element of the wider Government of Kenya social protection framework.

1.1.3 Programme development

The development of the Programme has taken place over three phases. Phase 1 was a 'pre-pilot' phase, executed between December 2004 and June 2007. With assistance from UNICEF, the Department of Children's Services (DCS), at that point a department in the Ministry of Home Affairs (MOHA), developed a small pilot scheme. This gave a monthly payment to 500 households in the districts of Garissa, Kwale and Nairobi. This was initially Ksh 500 (around \$6), but was increased to Ksh 1,000 in 2006. Following a review in 2005, the DCS expanded the Programme to 10 additional districts, using the government's own resources and reaching a further 2,500 households. In total, 3,000 recipient households were reached in Phase 1.

The second phase (Phase 2, from July 2006 to June 2009) revised the design and expanded the Programme. The Programme, supported by UNICEF and DFID, expanded to four new districts in Nyanza Province (Kisumu, Homa Bay, Migori and Suba) and revised procedures, with technical support from donor partners and from Ayala Consulting. The beneficiary selection process was refined and payments began to be made through the Postal Corporation of Kenya (PCK) instead of the district treasury. The amount paid to beneficiary households increased to Ksh 1,500 (about \$20) per month, paid as a lump sum every two months. By the end of 2007, some 4,700 households in the seven districts funded by UNICEF and DFID were regularly receiving payments. In early 2008, the seven pilot districts embarked on an intensive period of expansion in order to reach more households in the same districts. During this time, over 10,000 additional households were enrolled, such that by June 2008 there were over 15,300 recipient households.

At the same time, the Government of Kenya expanded its own support elsewhere, to reach a total of 30 districts and 8,280 households. In the following financial year, 2008/09, the Government of Kenya expanded its programme using its own resources. Its commitment has increased rapidly each financial year, from KSh 56 million in 2006/07 to KSh 579 million in 2008/09. It has extended its programme to an additional 10 districts in four provinces (Nyanza, Western, Eastern and Central). In May 2009, payments began to be made to 30,315 households.

The third phase of the Programme, from 2009 onwards, will expand the Programme to cover an eventual 100,000 households by 2012, representing some 300,000 OVCs. It is expected to harmonise the approaches used in the districts funded by UNICEF and DFID and in the districts funded by the Government of Kenya, which have had some differences. It will be financed by the Government of Kenya, which will commit \$30 million during the period 2010–13, with the additional support of the World Bank, which is providing a credit of \$50 million, alongside support from DFID (\$34 million) and UNICEF (\$12 million) (World Bank, 2009).

A primary objective of Phase 2 was to evaluate the Programme in the seven districts supported by UNICEF and DFID. This report outlines the evaluation findings.

1.1.4 Programme design

The design of the Programme changed as it developed. The current Programme design, as implemented in the seven evaluation districts in Phase 2, is as follows:

Cash benefit and payment

- The monthly benefit is Ksh 1,500 per household, irrespective of the number of orphans or individuals in it. Benefits are paid every two months and payments are made through post offices (PCK); and
- Households are encouraged to obtain national identification cards in order to receive the payment.

Beneficiary selection

- A household was classified as eligible for the Programme, if it satisfied the following conditions:
 - the household contained at least one OVC;
 - the household was poor according to the Programme's poverty criteria; and
 - the OVCs were not were not benefiting from other cash transfer programmes.
- A child (aged below 18 years) is defined as an OVC, if:
 - they are an orphan (single – with one parent dead, or double – with both parents dead); or
 - they are chronically ill;² or
 - they live in a child-headed household; or
 - they are looked after by a carer who is chronically ill.
- A household was considered to be poor by Programme criteria if it was observed to exhibit at least eight out of 17 specific poverty characteristics.
- Where there were insufficient financial resources to provide support to all those eligible, as was the case at the time of the evaluation baseline survey, households were prioritised by the age of the caregiver (priority to the youngest for child caregivers, and the oldest for adults).

Conditions and penalties

All beneficiaries were expected to meet certain conditions, which are intended to ensure that children receive proper care. Some exceptions were made – for example, if the services were not available, or if the child was sick, or for justified absences from school. In some districts, the Programme introduced a mechanism –the responsibility of the Operations Officer – for systematically monitoring compliance with these conditions and for penalising households by deducting Ksh 500 per infringement from the subsequent payment. However, this was not fully implemented during the period of the evaluation. This is discussed further below.

The conditions were that:

² According to targeting manual in use at the time of targeting in evaluation sub-locations, a chronically ill person is defined as: 'a person who has at least been chronically ill for the last 3 months and is both physically ill and socially incapable of working. Among the illnesses under this category are the following: tuberculosis, HIV/AIDS or cancer. Chronically ill is defined as a disease which cannot be cured and is terminal.' *Note:* This is not a standard definition of chronic illness. The definition has subsequently been revised in the Programme's Operational Manual (2008) and is now as follows: 'a caregiver or child who has been bedridden for at least the last 3 months and has a terminal illness (i.e. AIDS, tuberculosis, cancer)'.

- children aged one year and under should:
 - attend the health facility for immunizations, growth monitoring and vitamin A supplement
 - Frequency of required compliance: six times per year
 - Frequency of compliance monitoring: every two months;
- children aged between one and five years should:
 - attend the health facility (for growth monitoring and vitamin A supplement)
 - Frequency of required compliance: twice per year
 - Frequency of compliance monitoring: every six months;
- Children aged between six and 17 years should:
 - enrol in school
 - Frequency of required compliance: once per academic year
 - Frequency of compliance monitoring: every 12 months;
 - attend basic education institutions
 - Frequency of required compliance: 80 per cent attendance of effective days
 - Frequency of compliance monitoring: every two months; and
- One adult parent or caregiver should:
 - attend awareness sessions
 - Frequency of required compliance: once per year
 - Frequency of compliance monitoring: every 12 months.

Programme exit

- Beneficiaries are expected to exit the Programme automatically after five years;
- Households are expected to exit before the five years, if:
 - the household no longer has OVCs below 18 years of age;
 - the household members fail to comply with the conditions for three consecutive periods;
 - the beneficiary household does not collect the payment for three consecutive periods;
 - the CPU and/or the community deem the household no longer poor; or
 - the household members resign from the Programme or the household moves to another district and/or location where the Programme is not operating.

1.2 The evaluation

Pilot Phase 2 of the Programme was intended to provide an opportunity to learn. An independent evaluation was commissioned with the intention of informing the scale-up of the Programme and documenting the lessons learned; informing national policy development on safety nets for orphans and vulnerable children; and informing the design of the monitoring and evaluation system for the scaled-up Programme. The objectives given in the terms of reference were to establish the overall efficacy and efficiency of the Programme, and to assess various specific aspects of the Programme, including its operational effectiveness (including targeting and eligibility criteria, cash disbursement and accountability mechanisms); transaction costs; the use of the subsidy; its impact on children, households and communities; and the impact of imposing conditions with penalties.

The evaluation, undertaken in the seven districts supported by UNICEF and DFID, was contracted to Oxford Policy Management (OPM). At the start of the process, a number of key questions were identified in a document specifying the objectives of the evaluation (the Evaluation Framework Document):³

1. How much of an impact are cash transfers having? Are cash transfers reaching the most vulnerable children and having a substantial impact on their welfare, both in terms of human development for the child and wider social benefit for the household?
2. Does the impact justify the cost of the Programme? Would a national programme be affordable and fiscally sustainable? On that basis, should the Programme, or a variant of it, be scaled up to a national level?
3. If the Programme were to be scaled up, which aspects of its operation must be modified or strengthened for it to operate effectively at a national level? Which aspects of good practice should remain the same and be replicated?
4. What is the impact or incentive effect of imposing conditions with penalties on recipients, compared with not imposing them? What is the cost of imposing conditions, for both households and the government? Does any additional impact warrant the additional cost? If households fail to comply with conditions, why is this so?

1.2.1 Evaluation design

The evaluation addressed these questions with three approaches:

- Quantitative sample surveys of households and communities were undertaken twice, once before the Programme began (2007), and again two years later (2009). The households interviewed at baseline were re-interviewed for the follow-up survey, following a panel design;
- Qualitative data collection was also used, with focus groups and in-depth interviews being undertaken in 2008, and again in 2009; and
- A costing study was undertaken in 2009.⁴

The basis for the impact evaluation is a comparison of the beneficiaries with a group of controls. The control group comprises households and children that are similar to the recipients but who do not benefit from the Programme. Impact is assessed by comparing changes in the welfare of recipients, which should have improved as a consequence of the Programme, relative to changes observed amongst the control households. In this way, the information on the control households is used to allow for any other changes that may be happening in the population in general and have nothing to do with the Programme.

The evaluation was undertaken in four locations in each of the seven districts: two with Programme intervention, and two acting as controls.⁵ The evaluation locations were selected randomly after excluding any with particularly low poverty rates, inadequate capacity to supply the relevant health

³ 'Kenya OVC Cash Transfer Programme – Evaluation Framework Document', OPM (2006), mimeo.

⁴ A series of organisational reviews was also planned, and the first was implemented. No further reviews will be undertaken, however, since the remainder were cancelled in order to focus resources on the quantitative survey.

⁵ The Programme itself operates in more locations in each of these districts. Note that locations are the unit outside Nairobi. In Nairobi, sub-locations were identified. Where this document refers to locations, it should be taken to mean sub-locations in Nairobi.

and education services, or large existing OVC support programmes. Intervention/control status was allocated randomly to give two of each type per district.⁶

The randomised allocation of the Programme to sub-locations, together with the comparison of changes in a representative sample of beneficiaries and controls, provides a robust estimate of Programme impact. However, since the processes for selecting beneficiaries and controls were different, statistical modelling is also used to assess impact controlling for any remaining differences between them. This is detailed further in Section 3.

The evaluation also attempts to assess the impact of imposing conditions with penalties on the recipients, with this approach followed in some districts and not others. However, the allocation to districts was not random and implementation was not complete at the time of the evaluation. As a result, the findings are highly tentative.

Non-beneficiary households in Programme areas were sampled at baseline to evaluate the effectiveness of Programme targeting. Information on operational effectiveness was captured in the follow-up quantitative survey through the addition of an extra module asking about beneficiaries' experience of Programme operations.

The qualitative studies collected information on Programme operations and impact. Focus groups were conducted with beneficiary care-givers, beneficiary children and non-recipients: 15 focus groups were conducted in 2008, and nine in 2009. Semi-structured interviews were conducted with Programme officials and other relevant respondents. Details are given in Annex B.

Costing information was gathered in a separate stand-alone costing study, drawing on Programme financial documents and interviews.

1.2.2 Outcome and operational indicators

The main outcome measures were identified in the Evaluation Framework Document. However, since the design of the Programme was still being finalised while the questionnaire was being developed, some indicators that were identified initially proved to be irrelevant, since they were no longer a focus of the Programme. They included indicators on the treatment of HIV/AIDS, knowledge of the transmission of malaria, the incidence of particular health complaints in children, and the treatment with liquids of children with diarrhoea. In contrast, the income protection and civil registration objectives of the Programme gained additional emphasis.

The main child and household outcome indicators addressed in the evaluation are:

- Household consumption, expenditure and poverty
 - Household spending on food, education, health services
 - Total and per capita consumption levels in the household
 - The share of household expenditure on food
 - Consumption poverty levels
 - Dietary diversity
 - Total (per capita) consumption levels in the household;

⁶ The Programme committed to extend to the control locations after the follow-up survey.

- Education
 - Pre-school, basic and secondary education enrolment, attendance and class repetition rates;
- Health and nutrition
 - Vaccination rates;
 - Child anthropometrics: height for age, weight for age, weight for height, stunting, underweight, wasting
 - Treatment of child diarrhoea, acute respiratory infection, or fever at a health facility
 - Attendance at growth monitoring, possession of a health card; and
- Other indicators
 - Child labour and work, including the extent of participation, time spent
 - Child birth registration; adult ownership of identity cards.

These indicators are measured for all relevant individuals in a household (e.g. all children), not just OVCs.

A set of indicators was also developed to assess Programme operations. These indicators included measures of the effectiveness of Programme targeting, on the reliability and security of payments received, on unofficial payments made, and on knowledge about the Programme. Descriptive information on the characteristics of beneficiaries and the use of the transfer is also provided.

The qualitative study also collected information on Programme impact and operational effectiveness. In addition, the study was able to examine issues that could not be addressed in the quantitative survey. They included, for example, reports on the impact of the Programme on social relations and the challenges found in implementing the monitoring of compliance with conditions.

Fostering

A central objective of the Programme is to encourage the fostering/adoption and retention of orphans within their community. The household survey tracked what happened to orphans in the sampled households over the period, and the extent to which they remained in the households. This provided information on the impact of the Programme on the retention of orphans in the household, but no information on what happened to newly-orphaned children. The community interviews were used to ask about this, and information on orphan retention and fostering at the community level is presented in this report. It should be noted that this will be approximate. Precisely estimating the impact of the Programme on fostering rates would require a different study design and a much larger sample.

1.3 The baseline and follow-up surveys

The fieldwork for the baseline quantitative survey was implemented between March and August 2007. The follow-up fieldwork took place two years later, between March and July 2009.

The sample for the quantitative survey consists of four groups:

- **Group A** Households with OVCs in the Programme areas selected for inclusion in the Programme – divided into two groups; areas with conditions with penalties, and those without;

- **Group B** Households with OVCs in control areas that were expected to have the met Programme criteria and would therefore (in theory) have been selected by the Programme if the Programme had operated there;
- **Group C** Households with OVCs in Programme areas that were not selected for inclusion in the Programme; and
- **Group D** Households with OVCs in control areas that were expected not to have met Programme criteria and would not (in theory) have been selected had the Programme operated there.

Samples were drawn for these four groups of households. Programme recipient households were sampled from a list supplied by the Programme. Households in groups B, C and D (i.e. all except Programme recipients) were sampled from a frame developed through undertaking household listing in a random sample of census enumeration areas (EAs). Census enumeration areas were sampled with probability proportional to population size (PPS). The household listing collected information used to identify OVC households and to classify households as likely to be poor, based on socio-economic information provided by the households. This was used to distinguish the group of poor OVC households that acted as controls (group B). Households from groups C and D provided information on non-beneficiary households; group C households were used to assess Programme targeting. More detailed information on the sampling process and the definition of the control group is given in Annex A.

The intended initial total sample size was 3,161 households. After refusals and other losses, a total of 2,759 households were interviewed and included in the baseline sample for analysis (87 per cent). The households were panelled and, when it was possible to trace them, survey teams revisited and interviewed the same households for the follow-up. Some 2,255 of the baseline households were interviewed at follow-up (82 per cent of those interviewed at baseline). The proportion of households that could not be re-interviewed at follow-up was higher in control households. The sample at baseline included a total of 15,464 individuals, of whom 9,231 were children. At follow-up, the sample included 12,959 individuals, of whom 7,532 were children, although not all of these individuals were necessarily included in the baseline survey. The loss of households between the baseline and follow-up survey was higher than had been hoped and was, in part, due to the post-election violence. It could potentially affect the results of the analysis and is discussed in Annex F.

The distribution of the completed household sample is given in Table 1.1. Data was analysed using sampling weights calculated as the inverse of the relevant sampling fractions within the locations had been selected for inclusion in the study, based on the baseline sample. The study does not provide information about the OVC population in the country as a whole, but only for the particular population included in the evaluation: the weights reflect this.

In addition to the household survey, interviews were conducted with community groups at baseline (256) and follow-up (203). A review of records for the main schools offering basic education in each community was also undertaken at follow-up, for a total of 124 schools. It provided a cross-check on household reports of school enrolment and attendance.

Table 1.1 Number of households interviewed, by group and year of survey

| Selected to be a recipient/control household | Area | | Total |
|--|--------------|------------|-------|
| | Programme | Control | |
| 2009: | | | |
| Selected | 1,328 [A] | 579 [B] | 1,907 |
| Not selected | 185 [C] | 163 [D] | 348 |
| Total | 1,513 | 742 | 2,255 |
| 2007: | | | |
| Selected | 1,540 [A] | 754 [B] | 2,294 |
| Not selected | 238 [C] | 227 [D] | 465 |
| Total | 1,778 | 981 | 2,759 |

The survey fieldwork was conducted by Research Solutions Limited, using seven teams of interviewers. After finalisation, questionnaires were translated to provide versions in Swahili, Luo and Somali. For both the baseline and the follow-up, much of the fieldwork took place during the long rains. This, together with remoteness of some of the areas, posed considerable logistic challenges for the fieldwork. All questionnaires were checked in the field by supervisors and independently double-entered.⁷

1.4 Limitations

As with most complex studies, there are some limitations that should be recognised. The main limitation to the quantitative study design was that the Programme beneficiaries and controls were selected through different processes, meaning they could differ from one another in both observed and unobserved ways. Modelling was used to try to control for this in the analysis. In addition, the allocation of ‘conditions with penalties’ to districts was non-random, and implementation was limited by the timing of the follow-up survey: this severely restricted the ability of the evaluation to assess the impact of conditions with penalties.

In study implementation, there was notable attrition (loss to follow-up) of households and individuals in the baseline sample, as outlined in sub-section 1.3, partly since households and individuals had moved during the two years between surveys. Some items of information were affected by particular data collection problems. There were some difficulties in obtaining information on OVC status that was consistent between surveys. While this affected an appreciable number of children, its effect on household classification was small, and data were analysed for all children in the household. There were also some small differences from the Programme in the way in which children were classed as ‘vulnerable’ (see sub-section 1.6), although this will have had little impact on the results, since the vast majority of OVC households contain orphans.

⁷ Further information on the fieldwork is given in a separate fieldwork report, available on request.

Some efforts were made to improve data collection in the follow-up survey in a number of areas. Improvements made to the measurement of children at follow-up might affect comparability with the baseline. Despite these efforts, a significant proportion of children aged under five years did not have an exact age in months reported; this may also affect the anthropometric estimates, which need to be treated with some caution. The reports on access to infrastructure and services in the community questionnaire were sometimes inconsistent between surveys, and baseline survey results are used in the analysis. Finally, the costing study was dependent on data being provided by third parties: the analysis that could be undertaken with these data was limited by the classification that was used by the keepers of such data. The report flags any particular data concerns where they are relevant to the analysis.

Some care is required in interpreting the statistical significance of tests. Since the evaluation assesses many outcome measures, a small fraction of significant findings could be due simply to chance. No statistical adjustment is made for this.

1.5 Contents of the report

This report synthesises and presents the findings of the baseline and follow-up quantitative surveys, the qualitative fieldwork and the costing study. A detailed report on the qualitative findings is presented in Annex B.

After this introductory section, Section 2 presents an analysis of the Programme's targeting. Section 3 presents information on the Programme recipients and the transfers received. It also examines the Programme's operational effectiveness.

Section 4 presents the main impact analysis, focusing on the impact of the Programme on individuals and households. Section 5 looks at the impact of the Programme on OVC fostering and retention in the communities where the Programme operates, together with communities' views and knowledge about the Programme.

The findings of the costing study are presented in Section 5. and Section 6 concludes.

1.6 Terminology and definitions

Location A location is a geographical area corresponding to a specific official administrative unit. Each district (*wilaya*) is sub-divided into divisions (*taarafa*) and these, in turn, are sub-divided into locations (*kata*). The Programme is being implemented by location, with the targeting taking place within each location in which the Programme operates. In Nairobi, locations are much larger (in terms of population) than in other areas, so here the Programme is operating by sub-location (*kata ndogo*). In this report, the term 'location' refers to sub-locations in Nairobi and administrative locations in the other six districts covered by the evaluation (Kwale, Garissa, Homa Bay, Suba, Kisumu and Migori).

Programme location A Programme location is a location in which the CT-OVC Programme is operating.

Evaluation location An evaluation location is a location that is included in the evaluation. The evaluation covers four locations per district, two treatment locations and two control locations.

Treatment location A treatment location is an evaluation location in which the Programme is operating – that is, it is a Programme location covered by the evaluation. There are two treatment locations per district.

Control location A control location is an evaluation location in which the Programme is *not* operating. There are two control locations per district.

Enumeration area A location is divided into sub-locations and these, in turn, are sub-divided into enumeration areas. The enumeration areas do not correspond to any administration level of authority or unit; rather, they are the small geographical units used in the national census.

OVC household An OVC household is any household containing at least one OVC. A child (aged below 18) is defined as an OVC if they are an orphan (single or double), or they are chronically ill, or they are looked after by a carer who is chronically ill; or they live in a child-headed household.⁸

Recipient household A recipient household is a household that is participating in the CT-OVC Programme – that is, it is receiving cash transfer payments. All recipient households should be OVC households.⁹

Treatment household A treatment household is any recipient household that is situated in a treatment location.

Control household A control household is a household that was identified as having similar characteristics to those of recipient households but which resides in a location in which the programme is *not* operating – that is, it is situated in a control location. Control households are also referred to as 'pseudo-recipient households' in this report. See Annex A for details of how the control group was defined and identified.

⁸ The questions used to identify OVCs for the survey were taken from the Programme's targeting forms. There were some differences in the way in which individuals with chronic illnesses were identified, and information on support from other programmes was excluded because it appeared to be quite different from information held by the Programme. More detail is given in Annex A. These small differences will have very little impact on the findings.

⁹ As a result of targeting errors, a small proportion of recipient households may not contain OVCs.

2 Targeting of the Programme

This section looks at the effectiveness of the Programme's targeting process undertaken in the evaluation locations. It is based on a comparison of characteristics and consumption levels between beneficiary and non-beneficiary households using baseline survey data, before any cash transfers were received by beneficiaries.

The targeting process was only implemented once in the evaluation locations, in early 2007. However, there were two distinct phases of enrolment. Immediately following the targeting process, roughly 20 per cent of OVCs were enrolled onto the Programme. This was fewer than were identified as eligible, because there were insufficient resources for them all: a prioritisation process was used to select those that would be supported. In light of the post-election violence in early 2008, the Programme was expanded to enrol households that had been identified as eligible but had previously been excluded (so-called 'pending' households). This increased coverage to just over 50 per cent in the evaluation sub-locations.

This section updates the analysis presented in the baseline report to take account of the expansion, and presents results for both the initial and expanded groups of beneficiaries. The results may also differ slightly from the baseline report because of new information collected at follow-up. The analysis begins with a description of the targeting process and an assessment of how effectively the Programme was targeted within the areas it operates. It goes on to consider the Programme in the wider context of Kenya as a whole, and in the light of international experience.

2.1 The targeting process

2.1.1 Target population

The CT-OVC Programme's target population comprises those households containing at least one OVC. A child (aged below 18) is defined as an OVC, if:

- they are an orphan (single – with one parent dead, or double – with both parents dead); or
- they are chronically ill; or
- they live in a child-headed household; or
- they are looked after by a carer who is chronically ill.

The Programme was not intended primarily to address poverty. Nevertheless, in the face of limited resources, the Programme decided to prioritise support to poor OVC households. A household was classified as eligible for the Programme if it contained at least one OVC; was poor, according to the Programme's poverty criteria; and OVCs were not were not benefiting from other cash transfer programmes.

2.1.2 Beneficiary selection process

The beneficiary selection process takes place in several stages:¹⁰

¹⁰ This is a summary of the targeting process as set out in the Programme's Operational Manual, August 2008 – in some cases, updated with information provided by the Programme. It is probably a reasonable description of the targeting process that was undertaken in the evaluation areas, although the initial selection of districts was not based systematically on poverty and prevalence considerations.

1. Geographical areas to be covered by the Programme are selected (based on poverty levels and OVC prevalence).
2. Potential beneficiaries are identified. This is achieved by the Location OVC Committee (LOC) visiting households and recording specific details of their characteristics in order to determine their potential eligibility. The criteria at this stage are:
 - (i) whether the household is poor (using local self-defined poverty criteria);
 - (ii) whether the household contains at least one OVC; and
 - (iii) whether the household is a beneficiary of any other programmes that provide benefits in cash or in kind.¹¹

This information is collected using Form 1, a short questionnaire. Once collected, the Form 1 information is entered into the Programme management information system, and a list of potentially eligible households is generated (the Record of Identified Households).

3. Potential beneficiary households (identified households) are then revisited and subjected to a longer questionnaire (Form 2), which records information on a more detailed set of household characteristics required to determine final eligibility; in particular, a set of poverty-related characteristics is recorded, to classify the household as 'poor' or 'non-poor'. It is also confirmed whether the household has OVC status and whether or not it is benefiting from other programmes. The Form 2 data are also entered into the Programme management information system, and final eligibility is determined.

At this stage, a household is classified as eligible, if it:

- (i) contains at least one OVC;
 - (ii) is not benefiting from another programme providing regular payments for at least 12 months equivalent to Ksh 1,500 per month; and
 - (iii) is classified as 'poor' according to the Programme's poverty test.¹²
4. In circumstances where there are insufficient financial resources to provide support to all those households identified as eligible, the eligible households are prioritised according to the age of the OVC caregiver (from the youngest to the oldest, if the caregiver is less than 18 years of age; from the oldest to the youngest, if the caregiver is aged over 18). If two or more child caregivers are of the same age, then ranking is done according to the number of OVCs and disabled household members. Once the eligible households have been prioritised, the specific number (quota) of recipients to be enrolled is allotted to the location. This quota is filled according to the priority ranking. Any households identified as eligible but not included in the quota are referred to as 'pending' households.
5. The (prioritised) list of eligible households is then sent to the District OVC Sub-committee (DOSC), via the District Children's Officer (DCO), for the validation process performed by the LOC and the community in a public *baraza*. The Operational Manual does not specify the circumstances in which the community is allowed to overrule the management information

¹¹ The benefit should be regular for at least 12 months and equivalent to at least Ksh 1,500 per month.

¹² The Programme's poverty test has evolved significantly since it was first devised and implemented in 2006. Initially, it was based on 17 poverty characteristics (recorded in Form 2), with any household exhibiting eight or more of these characteristics being classified as 'poor'. This was the version of the poverty test used in the Programme locations covered by this evaluation. The CT-OVC evaluation baseline report (Oxford Policy Management, 2008) showed that this initial poverty test was not effective at identifying poor households (see Annex C). As a result, the poverty test has been revised, employing a more sophisticated proxy-means test approach based on the 2005–06 Kenya Integrated Household Budget Survey (KIHBS).

system, or the procedures for doing so. Selected households are then invited to attend the enrolment event and formally enrol as recipients of the Programme cash transfer.

6. All non-pending eligible households are enrolled into the Programme.
7. In the event that further resources become available, some or all pending households will be enrolled. In fact, in light of the post-election violence in early 2008, the Programme was subsequently extended in this manner within many of the locations in which it operated, including those covered by the evaluation, with all the pending households enrolled into the Programme. This increased coverage of OVC households from around 20 per cent to just over 50 per cent in the evaluation sub-locations.

A key risk in this targeting process is that some OVC households can be missed from the list of households to be interviewed for completion of Form 1. This initial selection is made by LOC members, who were (in theory) elected by the community but (in practice) were sometimes selected by local officials. Qualitative research in five locations indicates that LOC members sometimes did not know all households containing OVCs in their community, or were unable to reach all these households in the time allotted for their identification. This initial stage therefore generated some exclusion errors, according to LOC members.

In theory, the community validation process should provide an opportunity for such households to be identified and, if then found to be eligible, brought into the Programme. In practice, however, the qualitative research indicates that this community process rarely changed the list at all: it was used more as a method for announcing the list that had been generated by the Programme management information system on the basis of information gathered by field officers. Recipients and non-recipients alike did not feel that this meeting afforded scope to challenge the priority listing. They usually accepted Programme staff explanations that selections were made by 'the computer' in Nairobi and that they should wait for the next selection round. Since it seems that some exclusion errors were generated by the LOC members in the first stage, it was not entirely correct to blame the computer, and the lack of real change to the list in the community review meeting (*baraza*) would have meant there was no way for households excluded at this first stage to be reintroduced into the Programme. Appeal forms were not distributed in any location visited. Programme staff felt that the distribution of these forms would lead everyone to appeal, suggesting the criteria for selection were not sufficiently tightly defined or clearly communicated.

It is important to note that the Programme currently has no process for enrolling households after the initial targeting round in each area. This means there is no opportunity for newly-created OVC households to be assessed for eligibility and enrolled into the Programme. Similarly, there is no opportunity to join the Programme for existing OVC households who were initially classified as ineligible but whose circumstances might have subsequently deteriorated. Such a design is almost certain to result in a situation where changes in households' circumstances lead to some beneficiary households being better off than some non-beneficiary households. It is recognised that the Programme currently faces a trade-off between targeting new geographical areas as it expands, and using resources to enrol a further limited number of households in areas that already have coverage. Nevertheless, as the Programme matures it will have to develop mechanisms for keeping enrolment up-to-date, addressing both the enrolment of newly eligible households and the exit of those that are no longer eligible – most probably local administrative systems would be appropriate for this.

2.2 Targeting analysis

The analysis assesses whether the Programme has succeeded in reaching its general target population (i.e. households containing OVCs), and whether those households met the Programme's other targeting criteria. It also assesses how effectively it targeted resources at

poorer OVC households. This is done by comparing baseline consumption levels between beneficiary and non-beneficiary OVC households. The analysis considers both the initial (prioritised) and the expanded (previously pending) beneficiary households.

2.2.1 Targeting performance against Programme criteria

A household was classified as eligible for the Programme if it contained at least one OVC and it was poor according to the Programme's poverty test. A household was considered to be poor by the Programme if it was observed to exhibit at least eight of 17 specific poverty characteristics (i.e. a raw count).¹³ Any OVC household exhibiting seven or fewer of these poverty indicators was defined as ineligible and screened out of the Programme.

A third criterion – that the household must not be benefiting from any other programme that provides regular payments for at least 12 months equivalent to Ksh 1,500 per month – was not considered in this analysis because it was not operationalised in the specific Programme locations covered by the evaluation.

Overall, the Programme was successful in reaching its broad target population (OVC households), with only around 3 per cent of beneficiary households found to contain no OVCs (Table 2.1) after the enrolment of pending households, when it is estimated that 51 per cent of OVC households were enrolled in the Programme areas covered by the evaluation (Table 2.2).¹⁴ There are also very few ineligible beneficiary households – that is, those that do not pass the other eligibility (poverty) criteria. This represents a very low level of leakage against Programme criteria.

There are two provisos to these findings. The first is that the OVC status of the children, and therefore the leakage estimates, is based on self-declared information. Although there is no reason to believe that respondents were deliberately misleading interviewers, and the information used by the Programme is, to some degree, validated by the community: one of the lessons from the survey was that orphanhood status can be misreported. This can sometimes be due to a parent having abandoned the child or gone away for long periods. The parent's survival status might not be known, or the parent might be considered 'effectively dead' since no support is provided. In addition, strong fostering relations amongst families can lead to a foster parent (such as an uncle) to come to be considered as a parent. These issues mean that the use of orphanhood as a targeting criterion is not as well-defined and self-evident as it might first appear.

¹³ The 17 poverty characteristics are that: (1) none of the adults in the household reached standard 8; (2) the caregiver is not currently working or he or she is working as a farmer or labourer; (3) the caregiver has less than two acres of land; (4) the construction material of the walls is mud/cow dung or grass/sticks/*makuti*; (5) the construction material of the floor is mud/cow dung; (6) the construction material of the roof is mud/cow dung; (7) the toilet is non-extended/pan/bucket; (8) the source of drinking water is river/ lake/pond or similar; (9) the source of lighting fuel is firewood; (10) the source of cooking fuel is firewood or residue/animal waste/grass; (11) the caregiver owns no real state property here or elsewhere; (12) the caregiver owns two or fewer traditional zebu cattle; (13) the caregiver owns no hybrid cattle; (14) the caregiver owns five or fewer goats; (15) the caregiver owns five or fewer sheep; (16) the caregiver owns no pigs; (17) the caregiver owns no camels.

¹⁴ The 95 per cent confidence interval around this 51 per cent estimate is 39–64.

Table 2.1 Leakage to ineligible households

| | Initially selected households (%) | All selected households (%) |
|---|---|-----------------------------------|
| Proportion of beneficiary households that do not meet the criteria for inclusion set by the Programme | 4 | 4 |
| Of which: | | |
| contain no OVCs | 2 | 3 |
| are not poor on the Programme's definition | 2 | 1 |

Source: OPM CT-OVC evaluation baseline survey data (2007).

The second proviso is that the poverty criteria used by the Programme were not very successful in identifying the poorest households – some 95 per cent of OVC households in treatment locations are defined as 'poor' according to these criteria (see Annex C). In response to this finding, outlined in the baseline report, the Programme has refined the criteria and their application.

The coverage of the Programme has been highly dependent on the resources available. The Programme initially covered 21 per cent of OVC households but, following expansion to cover the additional households, this figure rose to slightly over half of all OVC households.¹⁵ Table 2.2 shows the extent to which coverage increased with the subsequent enrolment of pending households. The coverage of eligible households is very similar to that for OVC households overall, because almost all OVC households pass the eligibility criteria.

2.2.2 Targeting performance against household consumption and poverty levels

The household questionnaire collected information on each household's consumption and expenditure, which formed the basis for measuring income poverty. This measure was standardised for the number of household members and is used to compare households on their level of consumption and poverty, and for defining each household's relative poverty status in the targeting analysis. While it is possible for households to misreport consumption, it is usually reported much more reliably than household income. The calculation of the consumption aggregate and related measures is described in detail in Annex E. Note that it was not necessary for recipients' household consumption to be adjusted by a proportion of the value of the transfer, since consumption levels were recorded at baseline prior to any cash transfers being received.

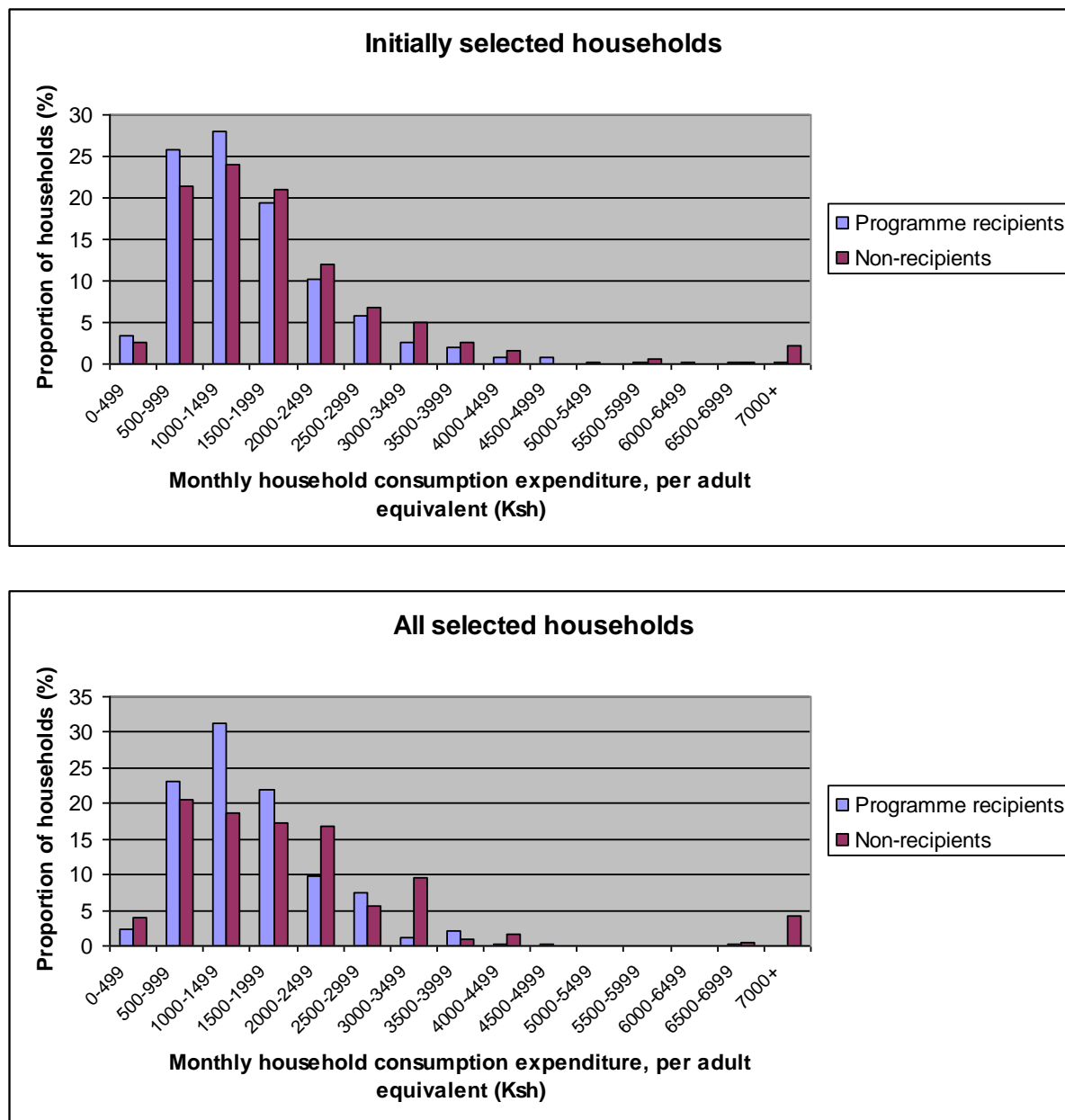
Considering the distribution of consumption as a whole shows that recipient households are poorer, on average, with a mean monthly per adult equivalent household consumption expenditure of Ksh 1,537, compared with Ksh 1,903 for non-recipient OVC households in treatment locations (although, in fact, this difference is not statistically significant, probably because of the small number of non-beneficiaries left in the sample after Programme expansion). This is reflected in the distribution of consumption expenditure illustrated in Figure 2.1 below.

Households can also be divided into groups according to their level of consumption. For the analysis, four approaches were taken. Households were divided into **quintiles**, based on their relative level of consumption across the whole study population. Households were also divided into consumption **terciles**, based on their relative level of consumption **within** the location where they

¹⁵ It should be noted that, since the sample was based on the households enrolled at the time of the baseline survey, the number of households in the sample that represent those enrolled afterwards is small, and their weights are large. This means that the (95 per cent) confidence interval around this coverage estimate is large: 39–64 per cent.

are located. The analysis also presents information on the proportion of households falling below \$1 and \$2 consumption per person per day, often used as international poverty lines. These figures are sensitive to the particular way that the household consumption information is collected, and so should not be considered comparable to similar estimates from other sources.

Figure 2.1 Distribution of household consumption expenditure (monthly per adult equivalent), by recipient status



Source: OPM CT-OVC evaluation baseline data (2007).

Notes: Real consumption expenditure per adult equivalent has been estimated by adjusting nominal expenditure for price differences across districts using a Paasche price index constructed using OPM CT-OVC baseline data from the household and community surveys. In order to enable valid inter-district comparison, rent has been excluded.

In addition, households were ranked according to their consumption level and the poorest 21 per cent and 51 per cent were identified. These figures correspond to the overall coverage levels at baseline and after the second enrolment. This can be used to assess, when the Programme covered a given percentage of OVC households, how effectively it reached the poorest corresponding fraction.

Table 2.2 Programme coverage

| | Initially selected households (%) | All selected households (%) |
|---|-----------------------------------|-----------------------------|
| Proportion of OVC households benefiting from the Programme | 21 | 51 |
| Proportion of eligible households in Programme areas that are beneficiaries | 22 | 54 |
| Proportion of poorest 21% of OVC households in Programme areas that are beneficiaries | 24 | 53 |
| Proportion of poorest 51% of OVC households in Programme areas that are beneficiaries | 24 | 57 |

Source: OPM CT-OVC evaluation baseline data (2007).

After the initial enrolment, 21 per cent of OVC households were covered in the evaluation areas. Only 24 per cent of the poorest 21 per cent of OVC households were included in the Programme at the initial enrolment, leaving more than three quarters of these poorest OVC households outside the Programme, representing a major problem of under-coverage. With the expansion of the Programme to cover more recipients in the same areas, coverage increased, and under-coverage declined substantially. Some 57 per cent of the poorest 51 per cent of OVC households are now covered by the Programme.

It can be seen that a poor OVC household in these areas had only a modestly higher chance of being included in the Programme than did any average household.¹⁶ For comparison, if Programme allocation were random, we would expect 51 per cent of beneficiaries to be in that category simply by chance. As a result, some 43 per cent of the poorest half of OVC households remains outside the Programme. While the targeting was mildly pro-poor, there was a clear need to improve the process for identifying and enrolling the poorest households. It is a positive step forward that the Programme has since responded to these concerns by developing an improved approach.

Table 2.3 confirms that, although the targeting process is mildly pro-poor, the Programme is not directing resources at the poorest OVC households as successfully as it might. Note that this picture did not change with the 2008 expansion to cover additional selected households. Some 13 per cent of Programme recipients were in the top (better-off) quintile. The differences between the poorest and the better-off households are not trivial: the average consumption level amongst the top fifth of OVC households is roughly five times that of the poorest, and support given to a better-off household is support denied to a poorer one.

Communities' perceptions of the targeting were also investigated in the qualitative research. While it was generally felt that recipient households contained OVCs and were poor, and perceptions of

¹⁶ It can be seen that a household that falls into the poorest 51 per cent of OVC households has a 12 per cent higher chance of being included in the Programme than did any randomly selected OVC household.

inclusion errors were therefore low, communities (particularly, but not only, non-recipients) felt that many non-recipient households with OVCs were just as poor as or poorer than recipients.

Table 2.3 Recipient distribution and mean real monthly consumption expenditure, by expenditure quintile

| | Initially selected households | | All selected households | |
|--|-------------------------------|--|------------------------------|--|
| | Proportion of recipients (%) | Mean real monthly consumption expenditure (per adult equivalent) | Proportion of recipients (%) | Mean real monthly consumption expenditure (per adult equivalent) |
| Within-sample consumption quintile: | | | | |
| Quintile 1 (less well-off) | 25 | 692 | 24 | 671 |
| Quintile 2 | 25 | 1,130 | 23 | 1,167 |
| Quintile 3 | 20 | 1,552 | 24 | 1,547 |
| Quintile 4 | 16 | 2,050 | 16 | 2,051 |
| Quintile 5 (better-off) | 14 | 3,376 | 13 | 3,102 |
| Overall | 100 | 1,567 | 100 | 1,537 |

Source: OPM CT-OVC evaluation baseline data (2007).

Notes: (1) Quintiles were defined over all evaluation locations using estimates of real consumption expenditure per adult equivalent, such that each quintile contained 20 per cent of the OVC households. (2) Real consumption expenditure per adult equivalent has been estimated by adjusting nominal expenditure for price differences across districts using a Paasche price index constructed using OPM CT-OVC baseline data from the household and community surveys. In order to enable valid inter-district comparison, rent has been excluded. (3) Due to targeting errors, a small number of non-OVC households were included in the study population. These households were excluded in the estimation of the quintile cut-offs.

2.2.3 How targeting performance could be improved

The analysis suggests some clear ways to improve the targeting.

Ensure all OVC households are included in the targeting process

The qualitative research suggests that one of the causes of targeting errors is that some OVC households were missed entirely by the targeting process, either because LOC members do not know all households containing OVCs in their community, or were unable to reach all these households in the time allotted for their identification. Some may also have been excluded because the LOC members did not consider them deserving of support. The community validation process did not provide an opportunity for such households to be identified subsequently and, if eligible, brought onto the Programme. Appeal forms were not distributed in any location visited because Programme staff felt that the distribution of these forms would lead everyone to appeal.

These findings suggest that the targeting process could be strengthened in the following ways:

- Give more time for targeting, and ensure all OVC households are identified and visited for the Form 1 listing;
- Ensure that households that do get missed from the initial Form 1 listing can be subsequently identified, either at the verification *baraza* or through the appeal process;
- Provide more information about the Programme to increase awareness, particularly in advance of targeting in an area; and

- Consider introducing the facility for households to apply on-demand after ‘mass’ targeting has taken place, to allow for changes in households’ situation over time.

Ensure the eligibility criteria and other prioritisation processes are effective in identifying the poorest households

Annex C shows the poverty criteria used to identify poor households did not discriminate them very effectively, screening just 5 per cent of OVC households. Some of the poverty indicators performed badly, in the sense that:

- almost no OVC households displayed some specific characteristics – in particular, Indicator 6 (mud/cow dung roof); or
- almost all households across all five quintiles exhibited a specific characteristic – for example, Indicator 17 (own no camels); or
- there was no clear pattern in the variation between the poorest and better-off groups.

The average poverty score was over 10, even amongst the richest 20 per cent of OVC households, suggesting that increasing the score required to be classified as ‘poor’ by the Programme (eight) might have improved the targeting.

In response to this analysis (as presented in the baseline evaluation report), the Programme has re-assessed the poverty targeting criteria that it uses for the screening process, and has introduced a more sophisticated proxy-means test approach. This should improve targeting performance substantially, although future evaluations should seek to verify that this is, indeed, the case.

Where not all identified eligible households can be brought into the Programme, as was initially the case in the evaluation locations, households are prioritised according to the age of the main caregiver (youngest to oldest for caregivers aged under 18 years; oldest to youngest for caregivers aged over 18 years). Annex C provides an assessment of how well this prioritisation procedure succeeded in targeting the poorest eligible households (within each location). In fact, the Programme’s criteria for prioritising eligible households did tend to target those eligible households that were relatively poorer, but there is clear scope for improvement since the relationship was quite weak.

The rationale for this two-step process is not clear, and the Programme might consider integrating beneficiary selection into a single prioritisation process, possibly with specific categories automatically included (e.g. child-headed households).

Ensure geographical quotas (where applied) reflect variations in poverty rates and OVC prevalence

Table 2.4 below compares the geographical distribution of the poorest 21 per cent of OVC households with the initial recipient allocation, which reflected location-specific quotas. The poorest 21 per cent were chosen as the benchmarks because this was the initial proportion of OVC households in the treatment locations benefiting from the Programme (i.e. the Programme’s coverage rate). If the targeting process had been perfectly successful in identifying the very poorest OVC households, the recipient allocation would mirror this distribution. This is clearly not the case; there were relatively too many recipients in Nairobi, Migori, Kisumu and Suba, and too few in Homa Bay, Garissa and Kwale.

Table 2.4 Distribution of poorest OVC households and the initial recipient allocation

| | Nairobi | Homa Bay | Migori | Kisumu | Suba | Kwale | Garissa | All treatment locations |
|--|---------|----------|--------|--------|------|-------|---------|-------------------------|
| Initial enrolment (2007): | | | | | | | | |
| Distribution of the poorest 21% of OVC households in treatment locations by district (%) | 3 | 22 | 22 | 18 | 9 | 15 | 11 | 100 |
| Distribution of recipient allocation in treatment locations by district (%) | 15 | 15 | 21 | 15 | 15 | 14 | 6 | 100 |

Source: OPM CT-OVC evaluation baseline data (2007).

2.3 Targeting results in context

The previous sub-section has examined the extent to which the Programme succeeded in targeting poorer OVC households in the populations where it operates, and identified areas where targeting might be improved. This sub-section discusses the issue of targeting in the wider context of poverty and social protection in Kenya and international experience.

The Programme states that its primary aim is not addressing poverty; rather, it is a rights-based programme intended to support the fostering of orphans and other vulnerable children, and the development of their potential (human capital). Providing support to OVC households is seen as an end in itself, rather than a means by which to direct cash transfers at the poorest households. However, the Programme explicitly targets *poor* OVC households, although the precise definition of 'poor' has not always been clear. The developing national social protection strategy also emphasises, amongst other things, directing resources at the poorest households. So, it is important to consider the Programme within this context. In targeting OVC households, as it is currently doing, how far is the Programme targeting households that are poor in terms of the national population as a whole?

It is possible to calculate the proportion of OVC households falling below a particular poverty line using the consumption–expenditure data collected by the survey. This shows that, at baseline, 31 per cent of beneficiary households were living on less than \$1 per day, and 79 per cent were living on less than \$2 per day; some 76 per cent had consumption less than the 'absolute' poverty line (see Annex C and Annex E). This shows that many beneficiaries are, in some real sense, 'poor'. However, these figures are of limited relevance, since they cannot be compared reliably and directly to national estimates of poverty levels in the rest of the population. This is largely because the questionnaire used a simplified consumption module, which means that crudely applying national poverty lines or quantile cut-offs to our evaluation data is almost certain to generate significantly overstated poverty rates amongst beneficiary households compared with estimates for the national population based on a more comprehensive consumption module.¹⁷

The evaluation data included only OVC households, so it is not possible to compare OVC and non-OVC households within the study population. Instead, the Kenya Integrated Household Budget

¹⁷ See Lanjouw and Lanjouw (2001).

Survey (KIHBS) 2005–06 data can be used to compare poverty rates in OVC households relative to the general population. Provisional estimates shown in Table 2.5 below, suggest that in Kenya as a whole poverty rates are higher amongst OVC households – 48 per cent are below the absolute poverty line, compared with 38 per cent of the population as a whole. The KIHBS data also suggest, however, across the seven Programme evaluation districts, that OVC households have higher poverty levels only holds because those in Nairobi are much poorer than the non-OVC households.¹⁸

In supporting OVC households, the Programme is supporting households that are more likely than average to be poor. However, a little over one half of OVC households are above the hardcore poverty line. Effective poverty targeting within the OVC population is important, if the objective is to direct resources to the poor. Geographical variations must be considered as part of this process.

Table 2.5 Comparative poverty rates: OVC households versus general population

| | Total households | Households in poverty (%) | |
|---|---------------------|------------------------------|-----------------------|
| | | Absolute ³ | Hardcore ⁴ |
| All Kenya | | | |
| OVC households (% of all households) | 1,072,703 (15.4) | 48.4 | 20.9 |
| All households | 6,978,069 | 38.3 | 14.9 |
| The seven Programme evaluation districts (Garissa, Homa Bay, Kisumu, Kwale Migori, Nairobi and Suba) | | | |
| OVC households (% of all households) | 206,888 (16.6) | 47.8 | 16.2 |
| All households | 1,244,812 | 30.8 | — ² |
| The seven Programme evaluation districts (excluding Nairobi) | | | |
| OVC households (% of all households) | 132,919 (26.0) | 49.7 | 22.8 |
| All households | 511,311 | 47.0 | — ² |

Source: Authors' calculations based on KIHBS 2005–06 data.

Notes: (1) Estimates are derived from secondary data presented in the KIHBS Basic Report on Well-Being in Kenya (2007) and preliminary simulations of poverty rates amongst OVC households undertaken by the World Bank using the KIHBS data. The estimates should therefore be taken as indicative. (2) Estimate not calculated due to lack of information. (3) In 2005/06 prices, the poverty lines were as follows: food poverty line was 988 Ksh in rural areas, and Ksh 1,474 in urban areas; the overall poverty line was Ksh 1,562 in rural areas and Ksh 2,913 in urban areas. These poverty lines are expressed in monthly per adult equivalent terms. (4) A household is defined as hardcore poor if its overall monthly consumption expenditure per adult equivalent is below the food poverty line.

It is possible to consider this more quantitatively. One measure of the effectiveness with which programmes are targeted is the ratio of the value of transfers going to the poor to the (relative) size of the poor in the population.¹⁹ It is possible to calculate an equivalent of this measure for effective

¹⁸ This is consistent with the fact that a comparison between the national population (based on recent DHS estimates) and the study population across a wide range of non-income based socio-economic characteristics (see Annex C) suggests the evaluation study population of OVC households appears to be only mildly worse off than the national population as a whole, and no worse than the national rural population.

¹⁹ So, for example, if the poorest 40 per cent of the population receive 40 per cent of the transfers by value, the ratio is 1. See Coady *et al.* (2004).

targeting *within* the OVC population in the Programme areas. This would be the ratio of poor OVC beneficiaries to the proportion of OVC households that are poor in the same population, where the 'poverty line' is set so that the proportion poor is equal to coverage. This gives a ratio of 1.14 (at 21 per cent coverage) or 1.12 (at 51 per cent coverage).²⁰ If this degree of targeting effectiveness were extended to the national population, it would imply (hypothetically) that around 55 per cent of Programme beneficiary households would fall below the absolute poverty line, corresponding to a targeting ratio of 1.44.

The comparison of the effectiveness of targeting internationally is not simple, since programmes often do not report standardised measures.²¹ Comparable, empirical information from programmes in Africa is even more limited.²² The article by Coady *et al.* (2004) presents empirical evidence in targeting efficiency and outcomes, based on an evaluation of 122 anti-poverty interventions in 48 countries from various parts of the world. The study showed that the median targeting programme transferred 25 per cent more resources to poor individuals than a universal programme. The 10 best performing schemes, of which the majority are in the Americas, were shown to transfer two to four times more resources to the poor than would have occurred under a universal scheme.

If the more comparable, targeted cash benefits programmes are considered alone, then targeting ratios vary from 0.5 to 3.5, with a mean and median around 1.8 (see Annex C).²³ This confirms that the Programme's targeting of poor households within the OVC population is only mildly pro-poor in comparison with similar sorts of programmes. When the fact that OVC households are somewhat poorer than the population as a whole is taken into account, then its performance against this measure improves. Nevertheless, it is clear that targeting is an area that the Programme needs to address.

A number of qualifications should be recognised here. First, it should be recognised that the Programme is likely to be substantially more progressive (in terms of income distribution) than much of Kenya's public expenditure. A similar comparison for 'universal' programmes in health and education gives targeting scores of 0.72 and 0.75 respectively, with tertiary education expenditure having a score of 0.07 (see Annex C). The Programme is more 'pro-poor' than these sectors, as a targeted benefit should be.

Second, Kenya is considerably poorer than most of the countries included in the comparison, and generally has weaker administrative systems, making the implementation of targeting more difficult. It might be argued that effective proxy-means testing may not be feasible due to lack of capacity and infrastructure (see, for example, Slater and Farrington, 2009); although it should also be noted that the Programme has had extensive financial and technical support from development partners. More importantly, the experience of the CT-OVC Programme shows the use of a proxy-

²⁰ The ratios are (approximately) equivalent to the Coady–Grosh–Hoddinott measure because benefits are paid at a fixed value per household.

²¹ Coady identified a 'significant problem was the incomparable nature of different measures of targeting performance' (Coady, 2004). A brief review of Programme documents from cash transfer evaluation programmes undertaken for this evaluation reveals that targeting analysis is often, still, un-standardised.

²² Note that analysing the impact of an *approach* implies analysing the expected effect of a certain design on targeting. It does not assess the problems incurred when implementing the targeting mechanism and, therefore, does not provide figures comparable with those measured for a real programme. The 'targeting tool' developed by the Overseas Development Institute and the methodology used by Stewart and Handa (2008) for their analysis of transfers in Malawi, Mozambique, Uganda and Zambia use this approach, and are therefore less useful as a benchmark to compare the CT-OVC Programme's targeting performance.

²³ These figures vary with the particular selection of programmes, and exclude universal programmes such as universal child benefits or old age pensions, and those that provide subsidies or in-kind benefits.

means testing approach in an African context is feasible and, from this encouraging basis, a reasonably high standard of targeting performance can be expected. The measures required to improve targeting performance need not necessarily be complicated or prohibitively costly.

2.4 Conclusions

The analysis presented here updates what was presented in the baseline report, and confirms that the same conclusions hold after the enrolment of pending households. It incorporates findings from the qualitative research.

The analysis shows that the Programme was successful in enrolling its target population – some 96 per cent of beneficiary households meet its criteria. This represents a very low leakage, with only 4 per cent of transfers going to ineligible households. This should be viewed as a considerable achievement. The analysis also showed the targeting process to be moderately pro-poor overall, although somewhat less so than many comparable programmes in other countries. The challenge of initiating a targeted transfer programme in a relatively resource-poor country such as Kenya should be recognised, and the Programme transfers resources to poor households more progressively than universal programmes such as public health care. It does so because OVC households are somewhat more likely to be poor than the population as a whole, and because the Programme's targeting within the OVC population is mildly pro-poor.

These are positive achievements. However, the Programme's criteria do not discriminate poor households effectively, and a poor OVC household has only a modestly higher chance of being included in the Programme than an 'average' OVC household. The result is that many of the poorest OVC households in Programme areas are not supported by it, while significant numbers of better-off households receive support. This is a serious equity issue that should be addressed by the Programme. While no targeting is perfect, the Programme's implementation of proxy-based targeting provides an encouraging basis for improvement.

The targeting performance of the Programme can be improved considerably, potentially up to top international standards, by taking a number of measures that need not prove overly costly or complicated. They include strengthening technical design features, such as calibrating the proxy-means test appropriately; revising the criteria for prioritising eligible households; and setting quotas that reflect the geographic distribution of poverty. Similarly, even some implementation challenges, such as ensuring that no OVC households are left out of the selection process, can be addressed manageably – for example, by allowing OVC households to apply on demand, coupled with an information campaign to encourage households to apply. The specification of the poverty test as it was implemented at baseline has already been revised by the Programme; by addressing the remaining issues, the targeting performance of the Programme should be improved significantly.

The Programme should also begin developing systems to update beneficiary enrolment in areas where the initial targeting has been completed. It is recognised that there is a trade-off between targeting new geographical areas and using resources to enrol new households in areas that already have the Programme. Nevertheless, a mature social protection programme must have a system for keeping enrolment up-to-date.

The targeting analysis raises a number of wider issues on the design of the Programme. Although the Programme was not intended primarily to address poverty, in the face of limited resources the Programme decided to prioritise support to poor OVC households. It is difficult to see a case for targeting well-off orphans over poor non-orphans, suggesting that the poverty focus of the Programme should be retained as part of its core objective. There are also many children living in poor households who are not OVCs under the current Programme definition, but are no doubt substantially disadvantaged by poverty. The concept of 'vulnerable' could be widened to include all

children living in very poor households. The Programme might give this issue consideration within the wider framework of Kenya's evolving social protection programme.

3 Operation of the Programme

This section outlines the operation of the Programme. It begins by providing some basic descriptive information about the recipients and the use of the payment. It goes on to look at the functioning of Programme operation, including the payment system, communication with beneficiaries and their knowledge of the Programme.

3.1 Programme recipients

This sub-section describes the characteristics of recipient households, decision-making around the utilisation of the transfer, and the value of the transfer to households.

Table 3.1 shows the participation in the Programme at follow-up for OVC households in Programme areas, classified by whether they were receiving the transfer at the time of the baseline survey. Since the Programme expanded substantially after the baseline survey in response to the post-election violence, some 35 per cent of OVC households who were not receiving the payment at baseline were receiving it by follow-up.²⁴

The vast majority of initial recipients in treatment locations were still receiving payments from the Programme at the time of the follow-up, with just 3 per cent having left the Programme. The main reason given for leaving the Programme was due to the OVC reaching the age of 18, although a surprising proportion of these households say that they do not know the reason for their exclusion from the Programme. The qualitative research indicates that, in many cases, none of the recipients who exit the Programme or the LOC members (or other community-level Programme staff) understand clearly why they have exited from the Programme, which causes concern.

Table 3.1 Participation in the Programme, by type of household

| | Initial recipients (%) | Initial non-recipients (%) |
|--|------------------------|----------------------------|
| Proportion of households who: | | |
| are aware of the CT-OVC Programme that is operating in their community | 99 | 72 |
| have ever received payments from the CT-OVC Programme | 99 | 35 |
| are still receiving payments from the CT-OVC Programme | 97 | 35 |
| have dropped out from the CT-OVC Programme | 3 | 0 |

Source: OPM CT-OVC evaluation follow-up data (2009).

Note: This and subsequent tables exclude those that were lost to follow-up ('attriters').

The survey showed that the vast majority of OVCs in beneficiary households are orphans, at around 95 per cent (Table 3.2). There has been an increase in the proportion reported to be double

²⁴ All the tables presented in this section are based on current recipients who were also Programme recipients at baseline. Some 25 per cent of control households believe the Programme is operating in their communities, which might reflect a wide interpretation of the word 'community'. A very small proportion reported that they were receiving payments from the Programme (2 per cent), which might reflect confusion with other programmes (see Annex C).

orphans, and a corresponding decline in the proportion reported to be single orphans. There has also been an increase in the level of chronic illness reported for children and their carers. Some 32 per cent of OVCs are cared for by a parent, with almost all of the remainder cared for by some other relative, particularly grandparents. The proportion cared for by parents declined over the period. The proportion of OVCs who are male appears to be somewhat higher than would be expected, raising questions about whether female OVCs are less likely to enter the Programme.

Table 3.2 Characteristics of beneficiary OVCs and their carers

| Indicator | 2007 | 2009 | Difference |
|--|------|------|------------|
| Characteristics of OVC: | | | |
| Orphan (single or double) | 94 | 96 | 1.5* |
| Single orphan | 56 | 50 | -6.5*** |
| Double orphan | 38 | 46 | 8.0*** |
| Chronically ill | 4 | 7 | 3.4*** |
| Looked after by caregiver who is chronically ill | 18 | 21 | 3.5* |
| Living in a child-headed household | 0 | 0 | 0.1 |
| Male (%) | 55 | 54 | -0.5 |
| Relationship of carers: | | | |
| Parent | 40 | 32 | -8.0*** |
| Grandparent | 40 | 45 | 5.1*** |
| Other relative | 20 | 23 | 2.7* |
| Non-relative | 1 | 1 | 0.2 |

Source: OPM CT-OVC baseline and follow-up evaluation data (2009).

Note: (1) The columns of the first panel do not sum to 100 because children may have more than one relevant characteristic. (2) *** p<0.01; ** p<0.05; * p<0.1.

Table 3.3 Age distribution of children in OVC households and 2003 Demographic and Health Survey

| Age group | 2003 DHS | | | 2009 CT-OVC follow-up survey | | | 2009 CT-OVC follow-up survey | | |
|----------------|--------------|------------|------------|------------------------------|------------|------------|------------------------------|------------|------------|
| | All children | | | All children | | | OVCs | | |
| | Males | Females | All | Males | Females | All | Males | Females | All |
| 0–4 | 28 | 29 | 29 | 16 | 15 | 15 | 11 | 11 | 11 |
| 5–9 | 26 | 26 | 26 | 25 | 27 | 26 | 27 | 29 | 28 |
| 10–14 | 26 | 25 | 26 | 32 | 30 | 31 | 38 | 36 | 37 |
| 15–19 | 20 | 20 | 20 | 27 | 28 | 28 | 24 | 23 | 24 |
| Total % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Sources: OPM CT-OVC evaluation follow-up (2009) data and Kenya DHS (2003).

Notes: (1) Estimates generated for OVC households at baseline.

Some 11 per cent of OVCs are aged under five years, while 15 per cent of all children in OVC households are in this age group. This contrasts with around 29 per cent in the general population (Table 3.3; for comparability with the Demographic and Health Survey (DHS), this table is presented to age 20 years). This will reflect the fact that the cumulative risk of becoming an orphan increases with age. It also seems possible that households with OVCs are less likely to experience births. This is important, because it means that the Programme will, on average, tend to target resources towards older children in the population and away from the youngest children who are at the highest risk of some negative outcomes, particularly mortality.

Table 3.4 Other characteristics of caregivers in recipient households

| | |
|---|------|
| Sex of the caregivers (% male) | 8 |
| Mean age of caregivers (years) | 53 |
| Mean number of caregivers per household | 1.15 |
| Relationship of caregivers with the head of the household: | |
| | % |
| Head (%) | 58 |
| Wife/husband/partner | 23 |
| Son/daughter | 9 |
| Son-in-law/daughter-in-law | 4 |
| Grandchild | 2 |
| Father/mother | 1 |
| Other | 3 |

Source: OPM CT-OVC evaluation follow-up data (2009).

Notes: (1) Estimated for households receiving a Programme payment at baseline who are also currently receiving payment.

Table 3.4 reports the characteristic of the main caregiver who is entitled to receive payments from the Programme. It shows that, in the majority of cases, main caregivers are female household heads. In some 70 per cent of cases, the person who decides how to use the transfer is the main caregiver, who generally decides alone or in consultation with other adults in the household (Table 3.5). The qualitative research found that these female caregivers/household heads feel more empowered because they have more money to spend, but do not report changes in their empowerment in relation to other household members, suggesting the payments are not bringing about any changes in the fundamental relationships within the household.

The majority of households pool resources from other income sources with the Programme transfers, which explains why the transfer is perceived to benefit all household members without distinction between adults, children and OVCs in the majority of cases. In those households where the use of the OVC transfer can be tracked separately from the rest of the household budget, it tends to benefit all children, rather than only the OVCs. Qualitative findings are in line with this.

Table 3.5 Use of the transfer

| | Total (%) | Districts with conditions (%) | Districts without conditions (%) |
|---|-----------|-------------------------------|----------------------------------|
| Decision-making on the use of the transfer: | | | |
| Proportion of current recipient households where a caregiver is the person who decides how the transfer is used (%) | 70 | 65 | 76 |
| Relationship with the head of the household of the main decision maker (%): | | | |
| Head | 82 | 82 | 82 |
| Wife/husband/partner | 14 | 12 | 16 |
| Son/daughter | 2 | 2 | 1 |
| Son-in-law/daughter-in-law | 1 | 1 | 0 |
| Grandchild | 1 | 1 | 0 |
| Father/mother | 0 | 1 | 0 |
| Other | 1 | 2 | 1 |
| Proportion of current recipient households where the main decision maker (%): | | | |
| Decides alone about how to use the transfer | 56 | 55 | 58 |
| Consults with other adults in the household | 27 | 30 | 25 |
| Consults with children in the household | 11 | 12 | 10 |
| Consults with all family members | 5 | 3 | 8 |
| Consults with someone else in the community | 0 | 0 | 0 |
| Management and spending of the payment: | | | |
| Proportion of current recipients who keep payment from the OVC programme separate from other income sources (%) | 44 | 47 | 42 |
| Categories of household members who benefit in general from the payments of the OVC Programme (%): | | | |
| All household members | 71 | 69 | 73 |
| Adult(s) only | 1 | 1 | 0 |
| Children only (OVCs and non-OVCs) | 22 | 23 | 20 |
| OVCs only | 7 | 7 | 7 |

Source: OPM CT-OVC evaluation follow-up data (2009).

Notes: (1) Estimated for initial recipient households currently receiving payment. (2) Main decision-maker is defined as the person who decides how the transfer is used.

Since the transfer is generally used as a resource for the entire household, its effective value depends on the size of the household. With a mean number of adult equivalents in recipient households of 4.4, the transfer was worth an average of Ksh 344 per adult equivalent at baseline, which represented some 22 per cent of consumption on average (Table 3.6). However, inflation has eroded the real value of the transfer substantially over the preceding two years. When it is adjusted for price increases, the transfer is now worth a little over two thirds of what it was worth in 2007 (Table 3.6).

The Programme should consider indexing the value of the transfer to household size and also for price inflation. The qualitative research indicates that both recipients and Programme staff consider these adjustments sensible. They point out that larger households already have larger expenses;

that the transfer has a lower impact; and that meeting conditions is more difficult for them. To illustrate the additional burden borne by larger households, consider that the value of transfer is insufficient to cover the costs of basic school education (without fees, but including books, transport, uniform, exam costs, and so on) for more than two to three children in a household. Recipients and Programme staff perceive significant reductions in the real value of the transfer, and strongly recommend that the transfer value is indexed to inflation.

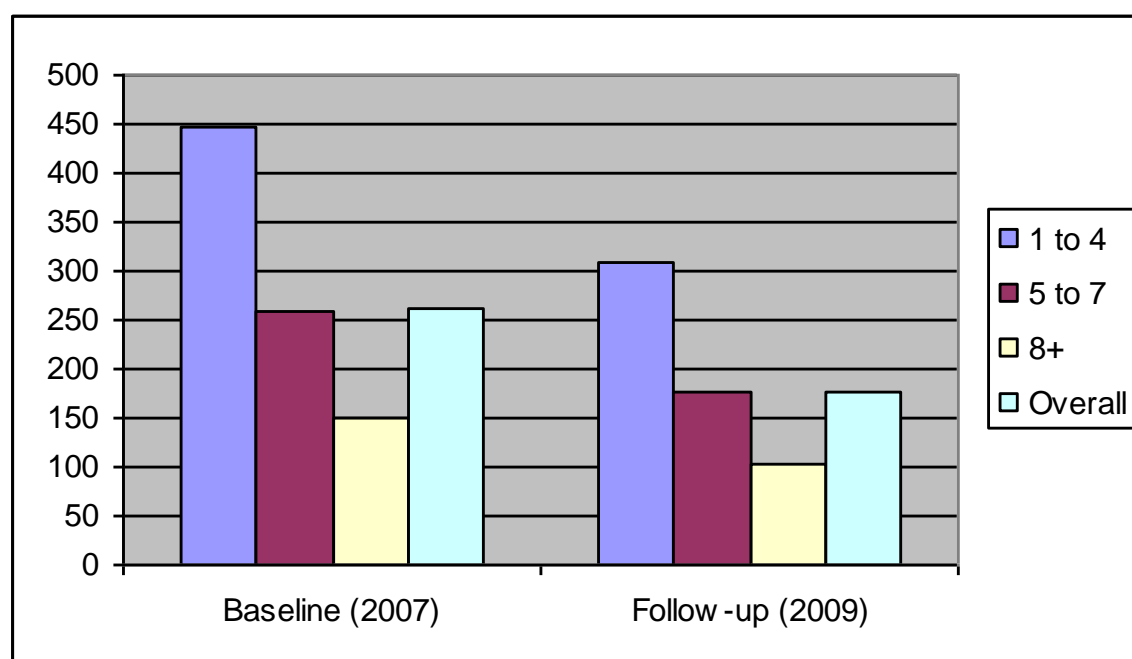
Table 3.6 Comparison of real transfer value with mean consumption expenditure

| | Baseline (2007) | Follow-up (2009) |
|--|--------------------|---------------------|
| Mean real monthly consumption expenditure per adult equivalent (Ksh): | | |
| All OVC households | 1,757 | 1,762 |
| All beneficiaries (including late enrollers) | 1,537 | 1,759 |
| Real value of the transfer per month – 2007 prices (Ksh): | | |
| Per household | 1,500 | 1,023 |
| Per household member | 266 | 181 |
| Per adult equivalent | 344 | 234 |
| % of mean monthly per adult equivalent consumption expenditure | 22 | 13 |
| Mean individuals per household: | | |
| All OVC households | 5.7 | 5.8 |
| All beneficiaries (including late enrollers) | 5.6 | 5.6 |
| Mean adult equivalents per household: | | |
| All OVC households | 4.5 | 4.7 |
| All beneficiaries (including late enrollers) | 4.4 | 4.4 |

Source: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Real consumption expenditure per adult equivalent has been estimated by adjusting nominal expenditure for price differences across districts using a Paasche price index, constructed using survey data from the household and community surveys. Follow-up (2009) values have been deflated using an estimate of evaluation location specific intra-survey inflation (1.467), calculated by comparing prices and budget shares between baseline and follow-up surveys. (2) In order to enable valid inter-district comparison, rent has been excluded from the calculation of mean monthly real consumption expenditure. (3) Due to targeting errors, a small number of non-OVC households were included in the study population. These households were excluded in the estimations. (4) Baseline consumption estimates exclude households not interviewed at follow-up.

Figure 3.1 Change in mean inflation-adjusted monthly transfer value received per household member, by household size, 2007 to 2009 (Ksh)



Source: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: Follow-up (2009) values have been deflated using an estimate of evaluation location specific intra-survey inflation (1.467), calculated by comparing prices and budget shares between baseline and follow-up surveys.

It is recognised that indexing to household size could be complicated in practice. However, simulations using the survey data suggest it would probably not increase total costs by a large amount. Table 3.7 shows the total value of the cash expected to be disbursed for the recipient households in the study population, and the value per capita of these payments for different household sizes, under current arrangements (fourth and fifth columns). The final four columns are simulations. They show that indexing the payment to provide a standard amount per capita, equal to the current average amount per capita per cycle, would in fact slightly reduce disbursements, since smaller households would be paid correspondingly less. A more realistic scenario might be to hold the payment per household constant for smaller households but increase it for larger households so that they receive a value equal to the current per capita average amount received. This second scenario increases the total disbursed only by around 16 percent, since the proportion of households that are much larger than average is not great.

Table 3.7 Value of cash disbursed per cycle in the evaluation Programme locations and estimates of additional costs through indexing

| Beneficiary households | | | Disbursements under current arrangements | | Disbursements under exact indexing | | Disbursements under 'top-up' indexing | |
|-----------------------------|------------------|--------------------------------|--|-------------------------------------|------------------------------------|-------------------------------------|---------------------------------------|-------------------------------------|
| Household size | Distribution (%) | Estimated number of households | Value of transfer per HH member (Ksh) | Cash disbursed per cycle ('000 Ksh) | Transfer per HH, Ksh | Cash disbursed per cycle ('000 Ksh) | Transfer per HH, Ksh | Cash disbursed per cycle ('000 Ksh) |
| 1 | 0 | 1 | 3,000 | 4 | 532 | 1 | 3,000 | 4 |
| 2 | 6 | 341 | 1,500 | 1,023 | 1,064 | 363 | 3,000 | 1,023 |
| 3 | 17 | 918 | 1,000 | 2,755 | 1,596 | 1,465 | 3,000 | 2,755 |
| 4 | 19 | 1,022 | 750 | 3,065 | 2,128 | 2,174 | 3,000 | 3,065 |
| 5 | 19 | 1,040 | 600 | 3,121 | 2,660 | 2,767 | 3,000 | 3,121 |
| 6 | 13 | 714 | 500 | 2,143 | 3,192 | 2,280 | 3,192 | 2,280 |
| 7 | 7 | 388 | 429 | 1,165 | 3,724 | 1,447 | 3,724 | 1,447 |
| 8 | 7 | 367 | 375 | 1,102 | 4,256 | 1,563 | 4,256 | 1,563 |
| 9 | 4 | 203 | 333 | 608 | 4,788 | 971 | 4,788 | 971 |
| 10+ | 7 | 358 | 238 | 1,075 | 6,719 | 1,907 | 6,500 | 2,330 |
| Total | 100 | 5,354 | | 16,062 | | 15,440 | | 18,559 |
| Ratio of total costs | | | | 1.0 | | 0.96 | | 1.16 |

Source: OPM CT-OVC evaluation baseline (2007).

Notes: The simulations use the figure of Ksh 532 per household member for the exact indexing of the value of the payment per household member, because this is the current average transfer value being received per person per cycle. 'Top-up' indexing maintains the same fixed payment for smaller households but increases the payments made to larger households to maintain the transfer per member, up to a cap of 6,500 Ksh for households with 10 or more members.

3.2 Programme operational effectiveness

This sub-section assesses the operational effectiveness of the Programme. It assesses how successful implementation has been in relation to its design, as set out in the Programme Implementation Manual.

Most estimates have been presented separately for Garissa, which has a much more dispersed population and weaker infrastructure. It is clear that some elements of the Programme are operating differently in this district compared with the others covered by the evaluation.²⁵

Table 3.8 reports information on recipients' experience of the payment process. It shows striking differences between Garissa and the other districts where the Programme is currently operating. While 57 per cent of current beneficiaries outside Garissa walk to the payment site, spending on

²⁵ Please note that, despite the fact that the sample size is relatively low for Garissa (137 households currently receiving payments from the Programme), the differences of key variables with the population of current beneficiaries in other districts are generally statistically significant.

average 2.3 hours on a return trip, in Garissa only 2 per cent of the beneficiaries live within walking distance of the post office. A much larger proportion of the population in Garissa has to rely on motorised transport, spending on average 19.2 hours on a return trip and incurring much higher transportation costs than other beneficiaries. Some 83 per cent of recipients in Garissa have to spend at least one night out of their home in order to obtain the payment, costing an extra Ksh 983. Overall, on average, beneficiaries in Garissa spend almost Ksh 1,500 on transportation, accommodation and food for every payment cycle (see Table 3.11). This is substantially more than the Ksh 1,000 compensation received by the majority of them, although that payment will clearly go a long way to help defray the costs.²⁶

Table 3.8 Payment collection: Transportation, expenditure and waiting time

| | Garissa | Other districts | Total |
|---|---------|-----------------|-------|
| Travel to the payment site: | | | |
| Proportion of current recipients using different means of transportation to the payment site ² (%) | | | |
| Car | 9 | 1 | 2 |
| Bus | 71 | 4 | 9 |
| <i>Matatu</i> | 7 | 51 | 48 |
| <i>Moto</i> | 0 | 20 | 18 |
| Bicycle | 1 | 7 | 7 |
| Walk | 2 | 57 | 53 |
| Other | 15 | 0 | 1 |
| Average expenditure on transportation, return trip ³ (Ksh) | 691 | 157 | 194 |
| Average time spent travelling, return trip (hours) ³ | 19.2 | 2.3 | 3.4 |
| Other expenses related to the payment collection: | | | |
| Proportion of current recipients who spent at least one night away for the most recent payment (%) | 83 | 1 | 6 |
| Average number of nights spent away from home for payment ³ | 1.6 | 0.0 | 0.1 |
| Average expenditure on other items, such as accommodation and food ⁴ (Ksh) | 983 | 64 | 871 |
| Expenditure compensation in Garissa: | | | |
| Proportion of households in Garissa who received the extra Ksh 1,000 top-up with the most recent payment (%) | 97 | – | – |
| Waiting time at payment site: | | | |
| Average waiting time at the post office (hours) | 4.4 | 2.7 | 2.8 |

Source: OPM CT-OVC evaluation follow-up data (2009).

Notes: (1) Estimated for initial recipient households currently receiving payment. (2) Every respondent can combine different means of transportation. (3) Average calculated across all current recipients. (4) Average calculated across current recipients who spent at least one night out for the most recent payment.

Other than with regard to Garissa, travel times to collect payments are much more reasonable, although waiting times at the post office can still be considerable. The cost of collecting the

²⁶ In the community where qualitative research was conducted in Garissa in November 2008, before the additional compensation was made available, recipients faced a walk of several hours and usually an overnight stay to collect payments. They circumvented this difficulty by giving their cards to the chief of the community, who would travel to the post office by car and pick up the transfers, with recipients having to spend some of the transfer in the chief's shop by way of payment.

payment is much smaller, although travel costs still constitute an average of around 5 per cent of the transfer.

However, in some rural locations outside Garissa, costs and time can still be significant, and qualitative research indicates that this can raise security problems, especially where transfer times are announced publicly. In parts of Homa Bay, for instance, qualitative research indicated that recipients were informed about the transfer being ready for collection either in the marketplace or by radio, meaning that everyone was aware that the money would be coming and making recipients feel less secure as a result. Since recipients in some areas need to walk for several hours to collect the transfer, these security concerns are significant, although qualitative research reported no incidents.

Table 3.9 Missed payment cycles

| | Garissa | Other districts | Total |
|--|---------|-----------------|-------|
| Proportion of current recipients who: (%) | | | |
| think that beneficiaries are asked to leave the programme if they miss three consecutive collections | 2 | 1 | 1 |
| know that payment is carried over to the next cycle if not collected | 61 | 63 | 63 |
| have missed at least one payment cycle | 5 | 3 | 3 |

Source: OPM CT-OVC evaluation follow-up data (2009).

Notes: Estimated for initial recipient households currently receiving payment.

Most current beneficiaries are aware of the fact that a payment is carried over to the next cycle if not collected, although it is perhaps surprising that some 37 per cent of respondents were not aware of this basic feature of the payment process (Table 3.9). Only a small proportion of beneficiaries report having missed payments since their enrolment in the Programme. This proportion is slightly higher than average in Garissa.

Table 3.10 Alternative recipients

| | Garissa (%) | Other districts (%) | Total (%) |
|--|-------------|---------------------|-----------|
| Proportion of current recipients who named an alternative recipient | 66 | 78 | 78 |
| Type of alternative recipients named: | | | |
| Family member in the household | 22 | 63 | 61 |
| Family member outside the household | 55 | 35 | 36 |
| Other | 23 | 2 | 3 |
| Proportion of current recipients who ever sent the alternative recipient to collect the transfer² | 91 | 43 | 46 |
| Proportion of current recipients who paid the alternative recipient when sent to collect the transfer³ | 61 | 37 | 39 |

Source: OPM CT-OVC evaluation follow-up data (2009). Notes: (1) Estimated for initial recipient households currently receiving payment. (2) Average calculated across households who named an alternative recipient. (3) Average calculated across households who named an alternative recipient and sent to collect payment.

Table 3.10 further shows that some 46 per cent of current beneficiaries have named and made use of an alternative recipient when they have not been able to collect the transfer. Of those who have, 39 per cent paid the alternative recipient something.

In Garissa, a smaller proportion of households have named an alternative recipient, but a much larger proportion of those who have done so have also sent the alternative recipient to collect the transfer on some occasion. Moreover, in Garissa alternative recipients are mainly either family members outside the household or non-family members, and they are also more likely to have received payment.

Table 3.11 Unofficial payments

| | Garissa | Other districts | Total |
|---|---------|-----------------|-------|
| Money paid to post office staff: | | | |
| Proportion of current recipients who had to pay the post office staff for payment (%) | 0 | 2 | 2 |
| Average amount paid to post office staff ² (Ksh) | – | 11 | 11 |
| Money paid to community representatives: | | | |
| Proportion of current recipients who had to pay any money to someone in the community for payment collection (%) | 2 | 4 | 4 |
| Average amount paid to someone in the community ² (Ksh) | 233 | 103 | 109 |
| Total expenditure per payment cycle: | | | |
| Average total expenditure incurred for payment collection (transportation, payment to third parties, food, accommodation and other) (Ksh) | 1,482 | 155 | 244 |

Source: OPM CT-OVC evaluation follow-up data (2009).

Notes: (1) Estimated for initial recipient households currently receiving payment. (2) Average calculated across recipients who had to make payment to receive their transfer.

Table 3.11 provides some evidence on the issue of unofficial payments linked to the payment process. Although households might have been reluctant to report problems, the evidence collected indicates that very few households have been asked to pay money to post office staff in relation to the Programme payment, and the average amounts paid are small. A slightly larger proportion of beneficiaries had to pay money to someone else in the community, with an average estimated cost of Ksh 109 to those who pay. Qualitative research did not generally find concerns about unofficial payments being made. Overall, unofficial payments are not a large component of the total costs faced by households in obtaining their Programme payments.

Table 3.12 Perception of beneficiaries on operational issues

| | Garissa | Other districts | Total |
|---|---------|-----------------|-------|
| Proportion of current recipients who: (%) | | | |
| feel safe collecting money | 85 | 89 | 89 |
| believe other people in the community know they are receiving the transfer | 100 | 91 | 92 |
| consider it a problem that other people in the community know they are receiving the transfer | 7 | 19 | 18 |
| think that beneficiaries are asked to leave the Programme after five years | 0 | 2 | 2 |

Source: OPM CT-OVC evaluation follow-up data (2009).

Notes: Estimated for initial recipient households currently receiving payment.

Although most feel safe, some 11 per cent of recipients express security concerns linked to the payment process (Table 3.12). Most say that other community members know they are receiving the money, and 18 per cent consider this to be a problem, possibly due to concerns about security, stigma or pressure to help others. As noted, qualitative research in relatively remote rural locations identified more significant problems with others knowing about the transfer, because recipients feared attack during the walk to collect the transfer. A very small proportion of beneficiaries believe that they will be asked to leave the Programme after having received payments for five years.

Overall, qualitative research indicates that recipients were generally very happy with the post office system, which was rarely corrupt and made few mistakes. Post office and Programme staff were able to deal very quickly with any cash shortages, with a variety of mechanisms to communicate and solve problems (involving chiefs in some places, LOC members in others, and the District Children's Officer (DCO) in yet others). Some problems with queues found in the baseline survey have improved over time. Indeed, the development of functioning *ad hoc* mechanisms to solve most problems and address most complaints was evident in most locations, although each location discovered its own way of resolving difficulties rather than following a common solution.

The survey asked recipients about the rules, conditions and penalties they believed to be attached to the transfer. Overall, 84 per cent of the current beneficiaries believe that they have to follow some sort of rules in order to continue receiving payments (Table 3.13). While the proportion is somewhat higher in the districts where conditions with penalties are supposed to be imposed, in general, these differences are not sufficiently large to be statistically significant. Most of the households refer to adequate food, nutrition and clothing as the main rules to abide by in order to receive the transfer, followed by attendance at basic schooling. The knowledge of health conditions is rather limited, as less than one quarter of current beneficiaries perceive that children have to use specific health services in order to receive the transfer. Most recipients said that they obtained information on Programme expectations from Programme representatives, and this was more common in districts where conditions with penalties were imposed.

Qualitative fieldwork revealed that, in practice, recipients in all locations were told that they needed to do certain things in order to receive the transfer. These activities generally involved obtaining birth and death certificates for children; using the money to pay for children's clothes, school fees and food; and taking children to schools and health clinics. Very few recipients were aware of anything much more precise than this (e.g. growth monitoring, immunisations, and so on). In areas of Nairobi where compliance is not monitored, recipients believed that they had to take their children to school and to clinics (for those up to the age of five years) 'or you will answer for this'

when, in fact, the Programme does not impose penalties on these households if they do not. This can be partly explained by compulsory basic education, which means that the Provincial Administration (with whom the LOC in Nairobi works closely) is seeking to enforce school attendance. Also, it can be partly explained by the active LOC member's background and her additional job as a community health worker – it makes sense for her to link the Programme and her health objectives.

Caregivers emphasised the importance of school attendance in all locations. In areas where compliance with conditions is not monitored by the Programme, penalties imposed by the Provincial Administration on caregivers for failing to ensure their children attend school also provide a significant, and perhaps decisive, motive for caregivers to emphasise schooling. Moreover, respondents refer to free primary education as playing a significant role in permitting children to attend school.

On the whole, recipients' knowledge of Programme conditions is patchy, even in areas where failure to comply with them might lead to a reduction in payments.

Table 3.13 Perceptions and information about conditionality

| | Total (%) | Districts with conditions (%) | Districts without conditions (%) | Difference and significance level (%) |
|--|-----------|-------------------------------|----------------------------------|---------------------------------------|
| Perceptions of rules/conditions: | | | | |
| Proportion of current recipients who think they have to follow rules in order to continue receiving payments | 84 | 87 | 80 | 7 |
| Type of rules/conditions perceived:³ | | | | |
| enrolment/attendance for basic schooling only | 50 | 55 | 46 | 9 |
| enrolment/attendance for basic and secondary schooling | 31 | 31 | 31 | 0 |
| attendance at health centre for immunisations | 20 | 22 | 17 | 5 |
| attendance at health centre for growth monitoring | 13 | 16 | 11 | 5 |
| attendance at health centre for vitamin A supplement | 6 | 6 | 7 | -1 |
| adequate food and nutrition for children | 67 | 67 | 67 | 0 |
| clean and appropriate clothing for children | 58 | 58 | 59 | -1 |
| attendance at OVC awareness sessions | 6 | 7 | 5 | 2 |
| birth certificate for children | 3 | 3 | 2 | 0 |
| other | 5 | 3 | 6 | -3 |
| Source of information about rules/conditions: | | | | |
| Proportion of current recipients who:³ | | | | |
| learned rules from OVC Programme representative | 66 | 73 | 59 | 14 |
| learned rules from other official sources: flyer, post office | 6 | 6 | 6 | 0 |
| learned rules from informal sources: neighbour, village elder/chief, other beneficiary | 28 | 23 | 33 | -10 |

Source: OPM CT-OVC evaluation follow-up data (2009).

Notes: (1) Estimated for initial recipient households currently receiving payment. (2) *** p<0.01; ** p<0.05; * p<0.1. (3) Averages are calculated across beneficiaries who think they have to follow rules in order to continue receiving payments.

Table 3.14 Implementation and enforcement of conditions

| | Total (%) | Districts with conditions with penalties (%) | Districts without conditions with penalties (%) | Difference and significance level (%) |
|--|-----------|--|---|---------------------------------------|
| Enforcement of rules/conditions: | | | | |
| Proportion of current recipients who:⁵ | | | | |
| say that they know what happens if rules are not followed | 71 | 73 | 69 | 4 |
| believe that a penalty fine is enforced if rules are not followed ³ | 16 | 23 | 7 | 16*** |
| believe that someone is checking that rules are being followed | 46 | 48 | 43 | 5 |
| think that beneficiaries are asked to leave the Programme if they do not follow rules for 3 cycles | 23 | 25 | 21 | 3 |
| think that beneficiaries are asked to leave the Programme if they misuse the transfer | 17 | 11 | 23 | -12* |
| think that beneficiaries are asked to leave the Programme if they neglect the OVCs | 11 | 7 | 15 | 8 |
| have ever received less than Ksh 3,000 when collecting payment ⁴ | 19 | 36 | 1 | 36*** |
| know why received they received less than Ksh 3,000 when collecting payment | 35 | 34 | 59 | -25 |

Source: OPM CT-OVC evaluation follow-up data (2009).

Notes: (1) Estimated for initial recipient households currently receiving payment. (2) *** p<0.01; ** p<0.05; * p<0.1. (3) Includes both cases when beneficiaries know and do not know the value of the fine. (4) Based on payment receipts when available. (5) Averages are calculated across beneficiaries who think they have to follow rules in order to continue receiving payments.

Table 3.14 reports information about the (perceived) implementation and enforcement of conditions and penalties. While 71 per cent of current beneficiaries who think they have to follow rules in order to continue to receive payments also believe they know what happens if rules are not followed, only 46 per cent of them believe that someone is checking that rules are being followed, and 23 per cent believe that they will be asked to leave the Programme if they do not follow the rules for three consecutive months.

Although some recipients in areas where penalties are imposed know about this, the majority do not. It is surprising that more than three quarters of recipients in these areas do not know this, particularly since some 36 per cent of current beneficiaries in these areas have seen deductions made from their payment at least once since they started receiving the transfer. However, only one third of those whose payment had been deducted knew the reason for this; the remainder do not seem to know it was a penalty fine. Overall, it is clear that communication about the penalties has not been effective.

Qualitative fieldwork conducted in November 2009 revealed more about the implementation of conditions and penalties in a small number of locations. Education penalties (deductions) had been implemented in Kwale and Nyanza. However, typically, education penalties were implemented with some flexibility, in that when teachers checked the register they could take into account why

children had not attended school, and so not penalise them when there was a good reason that they had done so. Indeed, teachers' awareness of the implications of their form-filling on their students may have led to some lenience. No one reported that conditions with penalties were unfair, provided they were applied only to basic schooling (since secondary schooling is too expensive). Where penalties were imposed, those penalised often did not know the reason for this.

Enforcing compliance with health service utilisation conditions proved difficult to implement, in practice. Health centre workers, particularly in large hospitals, found form-filling very onerous, and were presented with significant problems when health services were delivered by mobile clinics. In each district, there seemed tacit acceptance among Programme and health staff that, providing their children were immunised, recipients would not be penalised for missing health consultations. Very few recipients reported visiting health clinics regularly (although they went when children were ill) but not all of these were penalised, and Programme staff acknowledged the challenges they felt in enforcing these penalties.

Forms were generally collected from and delivered to facilities either by children's officers or by the Provincial Administration. This involved some expenditure if Programme cars were not available (which, often, they were not), and was time-consuming, particularly in large rural locations where there may be 10 basic school facilities and five health centres. In some cases, these large distances and costs meant that forms were collected or delivered late. While forms were filled out well by staff in some health centres and schools, in other facilities staff had not been trained (because they were new) and so did not know how to fill out the forms, or they did not have enough time. The Department of Children's Services (DCS) reported that the Ministries of Health and Education did not see this as being their responsibility, and felt that the DCS should obtain the forms and deal with any attendant difficulties. Sometimes, this involves calling meetings with parents and teachers to check retrospectively using education and health cards, rather than working directly through the internal school and health systems.

Case management – that is, conveying information between recipients and non-recipients and the Programme – was typically undertaken by one community representative in each area, according to qualitative research conducted in November 2009. This was generally an LOC member, chief or other concerned person, in each case acting voluntarily. This tended to be *ad hoc* and did not follow a blueprint. The effectiveness of case management depended strongly on the knowledge and enthusiasm of this individual, which in some cases was impressive and, in others, less so. The representative would attempt to deal with as many cases as possible directly, and refer others (usually in writing or by phone) to the chief or the DCO, who would find solutions or, again, refer upwards (e.g. to Nairobi). Not all recipients would know the identity of this individual, and recipients would rarely know of or visit the DCO directly, unless referred. Recipients tend to depend strongly on their community representative for their interaction with the Programme, including obtaining, filling out and returning updated forms (for changes of school, new fostering, and so on). In cases where this individual was not active, recipients would not fill out forms (and may not even have realised they needed to), and penalties could result.

Qualitative fieldwork indicated further that, despite the crucial role played by the (informally appointed) community representative, and the resources they expend on communication, transport and time, there are no terms of reference or remuneration for this role. This is problematic, because it renders the Programme highly dependent on one person without an institutional mechanism for supporting or replacing them. The lack of formal terms of reference also means that the implementation of the Programme varies significantly, depending on a community representative's interpretation of their role, and their knowledge and activism. The lack of formal remuneration makes it likely that this person is informally remunerated, either through 'lunches' or 'sodas' provided by the DCO and Provincial Administration from general Programme or office funds, or, perhaps more disconcerting, through preferential access to public resources, such as

food aid. The LOC seems to function well during targeting but then becomes defunct, its activities largely continued by one or two persons. At district level, the role of the District OVC Sub-committee (DOSC) is very unclear, and DOSC members had little information about the Programme.

Complementary services were not offered in a systematic way, and were usually restricted to awareness sessions that any one could attend. These sessions would discuss how to use the money and, in some cases, financial management and more general issues such as registration of births and deaths, and HIV. In some areas (Nairobi and Kwale), non-governmental organisations (NGOs) were also working with OVCs, but there was rarely significant collaboration. Programme staff felt that much more could be done, including training in income generation to maximise the use of the money, Voluntary Counselling and Testing (VCT) clinics outside post offices (in locations where no services are currently offered), education around family planning, and information on parenting for grandparental caregivers.

3.3 Conclusions

The survey showed that the **vast majority of OVCs** in the Programme are orphans, most commonly cared for by grandparents. OVCs, and all children in OVC households, have an older age distribution than that of all children, so that Programme resources will tend to be directed away from the youngest age groups in the population. The **recipients of the transfer** (as the main caregivers) are generally female heads of the household. In most cases, it is the main caregiver who decides how to use the transfer, either alone or in consultation with other adults in the households. The majority of households pool resources from other income sources with the transfer, which explains why it is generally reported to benefit all household members.

The **value of the transfer** is appreciable in relation to household consumption levels, representing some 22 per cent of average (per adult equivalent) consumption levels at baseline. However, its effective value depends on the size of the household, so its benefit is lower for households where there are many members. Furthermore, inflation has eroded the real value of the transfer substantially over the preceding two years, and by 2009 it was worth a little over two thirds of its value in 2007. The Programme should consider indexing the value of the transfer, both to household size and for price inflation, although the cost implications of both should be assessed.

Many aspects of ongoing **Programme operations** are working well. The payment system is ensuring regular payments to recipients, and there is no evidence of extensive 'skimming' from payments. If problems arise, Programme staff are usually able to solve them fairly easily through a variety of *ad hoc* measures. For most recipients, travel times and waiting times at the post office are generally manageable, if longer than might be ideal. However, recipients in Garissa face much longer journeys and higher costs, for which the extra payment of Ksh 1,000 only partly compensates them. As the Programme expands to other districts and more remote sub-locations, these issues are likely to recur and planning will be needed to resolve these issues.

The weakest element of operations appears to be in the communication of Programme rules and procedures, and in case management. Most recipients are unaware of the full set of conditions and penalties with which they are expected to comply, and most recipients in areas where penalties are applied are unaware of that fact. The monitoring of conditions is also often weak, particularly in the health system. The qualitative study found various instances of effective case management, but this often depends on the goodwill of particular community members. Their role needs supporting and institutionalising within the Programme. Many community members and Programme staff felt

that more complementary services could be offered, but research found little evidence that this was happening.

4 Impact of the Programme on individuals and households

This section assesses the impact of the Programme on the indicators that were identified at the beginning of the evaluation, as outlined in Section 1. For each indicator, the analysis presents the change between baseline and follow-up survey, and crude measures of impact. It also presents a summary of the impact found after adjusting for differences between recipients and controls. Finally, the analysis compares whether there is any difference in impact where the Programme imposed conditions with penalties, compared with where it has not.

4.1 Estimating the impact of the Programme

The analysis assesses Programme impact by comparing changes in the recipients with changes in the control group (group A compared with group B, as outlined in Chapter 1). This control group was selected to be as comparable as possible. The change in the control group is used to adjust for any changes that would have taken place in the recipients in the absence of the Programme. The difference in the changes in the two groups – the ‘difference-in-differences’ estimate – is a crude measure of the impact of the Programme. The statistical significance of this measure (or not) is indicated in Tables 4.1–4.9. Households that were not interviewed in the follow-up survey were also excluded from the baseline estimates presented here, to reduce the risk that the loss of atypical households might bias the comparisons.²⁷

This measure of impact has strengths and weaknesses. It has the benefit of using actual measures of change in the indicators over time. The control group helps to remove the effect of any other factors that might affect the indicators in addition to the Programme. This already makes the evaluation stronger than many that rely on only a single cross-survey to try to assess the impact of a programme. However, the process that randomly allocated areas as either Programme or control was undertaken for a relatively small number of geographical areas. Enrolment into the Programme followed an administrative process, while the identification of controls was based on household listing and a statistical process to identify similar households. Initial enrolment into the Programme was also restricted due to limited funds at the beginning of operation. As a result, it is possible that actual recipients and controls differ from one another in factors that affect the evolution of the outcome measures over time, even in the absence of the Programme. For that reason, the ‘crude’ impact indicators need to be viewed with some caution. For selected indicators, they are supplemented by statistical modelling to test whether an impact is found even after adjusting for (observed) differences.

The models aim to estimate what is normally referred to in the impact evaluation literature as the ‘average treatment effect on the treated’ (ATT). The challenge arises from the fact that the actual recipients are a sub-set of the eligible households in treatment areas whose selection was non-random. The process that led to the identification of final beneficiaries was partly led by Programme prioritization criteria (notably the age of the head of the households), but was also possibly driven by specific characteristics of the applicants and the communities, some of which may be unobservable. This raises concerns about selection bias, where differences between the recipients and controls may cause differences in outcomes that are not, in fact, due to the Programme.

²⁷ The issue of attrition is discussed further in Annex F; a small number of households that were not found to contain OVCs at baseline were also excluded from the analysis.

The modelling seeks to control for observable and unobservable dimensions of selection bias, in order to obtain a reliable estimate of the ATT. It uses baseline pre-Programme information to calculate difference-in-differences estimates between group A and group B households, while controlling for a broad range of observable characteristics at the individual, household and community level.²⁸ The estimates of the impact of the Programme are presented in the following tables, in the final column.

The basic specification of the models includes all individuals interviewed at baseline and follow-up in panelled households, including those who joined and left the sample between the baseline and follow-up survey. An alternative approach is to restrict the analysis to panelled individuals for whom the outcome is observed at baseline and at follow-up. This is more conservative in terms of possible selection bias, although it reduces the sample size and does not permit extrapolations onto the whole age range of the indicators. Selected indicators were also modelled with this second approach, to check that results from the first hold; when the findings are different from those presented here, this is mentioned in the text. To avoid presenting excessive detail, a more detailed outline of the methods used, full details of the models, results from the alternative model, and models that disaggregate by sex and other factors are presented in Annex F. Annex F also presents an analysis that disaggregates the impact of the Programme by two criteria: the size of households, and their consumption levels.

The analysis assesses the impact of the Programme on the indicators that were identified at the beginning of the evaluation, including those identified specifically by the Programme in its operation manual. It considers a number of relevant additional indicators. The chapter begins by presenting household-level measures, including consumption and poverty. These indicators would be expected to respond most rapidly to the cash transfer, since it reduces immediate budget constraints on the households. It goes on to consider the 'human capital development' indicators in education and health that are central to the Programme's objectives. It then considers measures of civil registration and child work, and finally the issue of fostering. It would be expected that some of these indicators would respond more rapidly than others to the cash transfer, and some might only show a significant change over a longer period. Some indicators are also more likely to be influenced by a wide range of determinants, and may therefore be more difficult for the Programme to change. Concerns over the available supply of services in education and health, for example, were identified early in the design of the Programme but are not specifically addressed by it. It is appropriate to assess the Programme against its defined objectives and then to consider these factors, where relevant, for particular indicators.

Since the transfer is a fixed amount per household, its impact would be expected to be larger for smaller households. Its impact on some indicators might also depend on the consumption level of the household before it started to receive the transfer. For a number of indicators, the analysis assessed whether impact varied with household size (six or fewer versus more than six) and initial consumption levels (above or below the median consumption per adult equivalent). The findings are discussed in the relevant sub-sections. They need to be treated with some caution, since the number of tests multiplies rapidly when many estimates are disaggregated in this way, so there is an increasing likelihood of some being significant simply by chance.

It should also be noted that, for some indicators, sample sizes are relatively small, and larger samples might have resulted in differences being significant.

²⁸ Outcomes at baseline and follow-up are modelled as a function of time, Programme status, and Programme*time status, together with other explanatory variables. Full details on the statistical modelling approach are provided in Annex F.

4.2 Programme impact

4.2.1 Household level indicators

The Programme aims to ‘promote household nutrition and food security by providing regular and predictable income support’. The survey collected information on the consumption and expenditure of households at baseline and follow-up, including information on food consumption. This provides an overall, monetised measure of household consumption and poverty levels, and can also be used to look at dietary diversity. Nutritional status, as assessed by child anthropometric measures, is discussed below.

Household consumption is expressed in 2007 prices through an inflation adjustment based on prices collected in the household and community questionnaires, and outlined in Chapter 2. The consumption of Programme households shows evidence of a substantial impact of the Programme, with average consumption levels per adult equivalent some Ksh 232 higher in real terms in 2009 than in 2007, and a Programme impact of Ksh 274 per adult equivalent (Table 4.1)²⁹

Table 4.1 Household level welfare indicators

| Indicator | Treatment locations Recipient households | | | Control locations Control group households | | | Crude diff-in- diffs | Impact estimate from model |
|---|---|-------------------|-----------|---|-----------------|-----------|----------------------------|----------------------------------|
| | 2007 | 2009 | Diff. | 2007 | 2009 | Diff. | | |
| Mean total monthly household consumption expenditure per adult equivalent | 1564.3 [1,289] | 1796.3 [1,289] | 232.0** | 1651.6 [540] | 1610.4 [540] | -41.1 | 273.2** (112.3) | 274.4** |
| Mean monthly food consumption expenditure per adult equivalent | 4045.7 [1,289] | 5192.2 [1,286] | 1146.5*** | 3941.4 [539] | 4948.9 [538] | 1007.5*** | 138.9 (340.3) | 153.0* |
| Food share of consumption expenditure | 0.630 [1,289] | 0.696 [1,286] | 0.066*** | 0.61 [539] | 0.686 [538] | 0.077*** | -0.0103 (0.0125) | -0.0095 |
| Proportion living on less than \$1 a day | 0.371 [1,289] | 0.21 [1,289] | -0.161*** | 0.331 [540] | 0.302 [540] | -0.029 | -0.133** (0.0560) | -0.132** |
| Mean monthly health expenditure per capita | 34.29 [1,289] | 35.99 [1,289] | 1.7 | 48.89 [540] | 32.49 [540] | -16.4*** | 18.09*** (5.796) | 17.16** |
| Mean monthly education expenditure per child | 116.4 [1,289] | 147.3 [1,268] | 30.93** | 134.5 [540] | 128.8 [533] | -5.67 | 36.60 (23.77) | 26.71 |
| Proportion of households receiving external support | 0.276 [1,289] | 0.170 [1,289] | -0.106** | 0.195 [540] | 0.176 [540] | -0.019 | -0.0866 (0.0534) | -0.0845 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Real consumption expenditure per adult equivalent has been estimated by adjusting nominal expenditure for price differences across districts using a Paasche price index. Rent has been excluded. (2) Sources of support include local community, friends or relatives, NGOs, and so on. (3) Standard errors in parentheses (): *** p<0.01; ** p<0.05; * p<0.1. (5) Number of observations over which the estimate is generated is given in square brackets [].

²⁹ Surprisingly, the impact of the Programme on total household consumption is positive, but not significant, across all households, although it is highly significant for smaller households. The impact on total expenditure for particular components is also often not significant across all households, although most are significant for smaller households. The per capita/per adult equivalent expenditures are often significant across all households, as presented in Table 4.1. See Annex F.

Mean food consumption expenditure has increased in both Programme and control locations, probably reflecting the impact of food price rises over the period. The share of food in household expenditure also increases, although the increase is slightly larger in control areas. When adjusting for other factors through models, the Programme is estimated to have increased food expenditure in beneficiary households by around Ksh 153 per adult equivalent.

The increase in consumption translates into a substantial reduction in poverty levels. The proportion living below a (nominal) \$1 per day poverty line falls by 16 percentage points amongst Programme beneficiaries, with a Programme impact of 13 percentage points.

When analysed by household size (Annex F), the impact of the Programme on total consumption (per adult equivalent) and food consumption is significant only in smaller households. This might be expected, since the value of transfer per person is smaller for larger households. This reinforces the case for considering an adjustment to the value of the transfer for larger households.

Mean health expenditure does not appear to have increased in Programme areas in real terms, although the analysis shows an impact due to a decline in this measure in control areas. It is possible that this reflects a reduction in spending due to price rises in the face of budget constraints in control areas, from which the Programme has protected recipients. Interpreting health spending is complicated, however, since it is affected by the frequency and type of illnesses that affect the household.

In contrast, mean education expenditure per child has increased significantly in Programme areas and declined slightly in control areas. However, the net difference is not significant. This effect is not significant, even in smaller households.

The qualitative study found that households reported spending the transfer on shared household items, with food as the first priority, although water, shelter, and school items were also identified as important. Children were reported to be less hungry and better dressed.

The quantitative survey found a decline of over 10 percentage points in the proportion of Programme households reporting receiving assistance from other households, other members of the community or organisations. This, no doubt, reflects a perception that these households are less needy now that they receive support from the Programme, as would be expected.

The consumption data can also be used to identify households that have consumed different groups of foods. This shows a significant increase in the proportion of beneficiary households that have consumed meat, milk, fruit, fats and sugar (Table 4.2).³⁰ The impact of the Programme consists of an increase of between five and 19 percentage points in the probability of consuming these five food groups. A simple dietary diversity score based on the consumption of these food groups also shows a significant increase in beneficiary households but not in controls, translating into an impact of 0.81 points on the score, a 15 per cent increase over its baseline value. It is clear that the transfer is being used by households to improve the quality of their diets substantially. Poorer households appear to benefit more in terms of dietary diversity (Annex F).

These findings are line with the experience of other cash transfer programmes. Many Latin American programmes have shown an impact on consumption and/or poverty levels, although there are, as yet, few examples in Africa from routine cash transfer programmes. Programmes also

³⁰ The effect on meat consumption is the only one not fully robust to alternative modelling options (see Annex F).

often show an impact on calorific intake or dietary diversity, including programmes in Malawi and Zambia.³¹

The survey also collected information on housing conditions and household assets (see Annex C and Annex F). The results suggest that there has been an improvement in some aspects of housing quality in beneficiary households: there is a significant increase in the proportion with a toilet/latrine of some form and with better sources of drinking water, with the former having a significant impact based on the crude measure. There are also significant increases in the proportion of beneficiary households owning buckets, blankets, telephones, radios, bed linen and mosquito nets (although not for all of the assets about which information was collected). For the latter three items, increases are sufficiently large in beneficiary households compared with controls that the crude impact measures are significant. These improvements presumably reflect the increase in income and consumption resulting from the transfer, enabling household to purchase more goods. However they should be interpreted with caution, as only the positive effect on mosquito nets is robust to alternative model specifications (see Annex F).

Table 4.2 Food consumption indicators

| Indicator | Treatment locations | | | Control locations | | | Crude diff-in-diffs | Impact estimate from model |
|--|----------------------|------------------|----------|--------------------------|----------------|----------|----------------------|----------------------------|
| | Recipient households | | | Control group households | | | | |
| | 2007 | 2009 | Diff. | 2007 | 2009 | Diff. | | |
| Proportion of households that have consumed cereals in the preceding 7 days | 1.00 [1,289] | 0.997 [1,289] | -0.002 | 0.997 [539] | 0.998 [540] | 0.001 | -0.00328 (0.0036) | -0.00338 |
| Proportion of households that have consumed fish in the preceding 7 days | 0.482 [1,289] | 0.524 [1,289] | 0.042 | 0.551 [539] | 0.433 [540] | -0.118** | 0.160*** (0.0536) | 0.163*** |
| Proportion of households that have consumed meat in the preceding 7 days | 0.345 [1,289] | 0.714 [1,289] | 0.369*** | 0.442 [539] | 0.616 [540] | 0.174*** | 0.195*** (0.0688) | 0.186** |
| Proportion of households that have consumed vegetables in the preceding 7 days | 0.915 [1,289] | 0.933 [1,289] | 0.018 | 0.953 [539] | 0.926 [540] | -0.027 | 0.0442 (0.0309) | 0.0493 |
| Proportion of households that have consumed milk in the preceding 7 days | 0.437 [1,289] | 0.592 [1,289] | 0.155*** | 0.526 [539] | 0.517 [540] | -0.009 | 0.163*** (0.0448) | 0.163*** |
| Proportion of households that have consumed fruit in the preceding 7 days | 0.381 [1,289] | 0.548 [1,289] | 0.167*** | 0.466 [539] | 0.573 [540] | 0.107** | 0.06 (0.0492) | 0.0697 |
| Proportion of households that have consumed fats in the preceding 7 days | 0.913 [1,289] | 0.948 [1,289] | 0.035*** | 0.945 [539] | 0.93 [540] | -0.016 | 0.0505* (0.0295) | 0.0532* |
| Proportion of households that have consumed sugar in the preceding 7 days | 0.752 [1,289] | 0.921 [1,289] | 0.169*** | 0.823 [539] | 0.849 [540] | 0.026 | 0.143** (0.0537) | 0.146** |
| Mean dietary diversity score of households in the preceding 7 days (0–8) | 5.225 [1289] | 6.177 [1289] | 0.953*** | 5.697 [540] | 5.843 [540] | 0.146 | 0.807*** (0.164) | 0.821*** |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Standard errors in parentheses (): *** p<0.01; ** p<0.05; * p<0.1. (2) Number of observations over which the estimate is generated is given in square brackets [].

The survey also collected some limited information on the ownership of productive assets and economic activities. Despite the increase in consumption goods outlined above, there was almost

³¹ See, for example, Attanasio (2005), Hoddinott *et al.* (2000), MCDSS/GTZ (2007), Miller *et al.* (2008), Secretaría Desarrollo Social (2008), Soares *et al.* (2007).

no significant increase in the ownership of farming land, poultry or any animals by beneficiary households, and no impact of the programme on any of these indicators (see Annex C and Annex F). This suggests beneficiary households are not investing any of the transfer in farming activities. Information on whether households have saved money in the past or are currently saving, and how much they have managed to save in the preceding month was collected in the follow-up survey, although not in the baseline survey. Beneficiary households are significantly more likely to have saved and to have saved a larger amount than non-beneficiary households in the last month. While this is based only on a simple cross-sectional comparison, it suggests the transfer is also helping beneficiaries to save.

The survey asked about household income sources. It shows that there has been an increase in the proportion of beneficiary households that rely on gifts and transfers (including CT-OVC transfers) as their sole source of income, with a crude impact estimate of around six percentage points (see Annex C and Annex F). This crude result is not fully confirmed by statistical modelling (see Annex F), and may be partly driven by other differences between beneficiary and control households. In particular, beneficiary households have older household heads relative to controls, and are therefore more likely to rely on external support from informal networks.

Control households have seen an increase in the relative frequency of non-agricultural self-employment as an income source, which is not observed in beneficiary households. This potentially raises a concern about ‘dependency’, and whether households might forgo income opportunities as a result of the transfer. However, there may be differences in household labour supply that explain this, due to the age prioritisation process used to select beneficiary households.³² Furthermore, given the characteristics of the target population and the Programme objective to support retention of OVCs, an increase in the proportion of households not working might possibly be interpreted as a positive result, depending upon which types of households this affects. For example, very elderly caregivers living with young OVCs may be able to give up poorly paid work as a result of receiving the transfers, which would increase the capacity of this caregiver to provide adequate support to the OVCs. The survey found that around one third of beneficiary households contain only one adult or less, suggesting that this apparent reduction in labour supply may, indeed, be a positive impact. However, this assessment would benefit from further investigation, with a more detailed analysis of the types of households that are reducing their labour supply, and the circumstances in which this could be considered as positive.

The qualitative research found some examples of recipient households investing the transfer in livestock or small businesses, but this was usually amongst better-off households or those with fewer dependents. Households with higher costs or lower incomes tended to feel the transfer was insufficient to invest. Recipient households reported being able to access credit from shops, landlords and money lenders.

4.2.2 Child welfare measures

Information was collected and analysed for all the children in the study households at baseline and follow-up. This information is not limited to OVCs, since the benefits of the payment were neither intended nor expected to be limited only to them.

Education

The main objective of the Programme is to increase enrolment, attendance and retention in basic school (i.e. to grade 8). However, the evaluation also looked at nursery and secondary schooling.

³² Notice that, again, the effect is not statistically significant under the most conservative modelling approach (see Annex F).

The proportion of children attending nursery school has increased in both Programme and control areas, suggesting that the increase is not a consequence of the Programme but a response to other factors (Table 4.3). The Programme does not appear to have had any overall impact on this measure.

There has been a small increase in the proportion of children aged six to 17 years currently enrolled in school in beneficiary households, with an estimated impact of the programme of around 3 percentage points. When this is broken down into the standard age groups for basic and secondary schooling, only the change in older children is significant.

Around 88 per cent of children aged six to 13 years in Programme and control areas were enrolled in basic schooling at follow-up, and there had been no appreciable increase over the period. This is surprising, given the emphasis of the Programme on enrolment in basic schooling, and the general push by government to increase it. For the age group as a whole, there is no evidence of an impact on enrolment in basic schooling, either for the crude or modelled estimates. The same is true if the entire age group of six to 17 is considered.

When the data is disaggregated by age, the basic model specification suggests there may be an impact on basic school enrolment at the youngest ages (six to seven years old), although the crude impact estimates and other model results do not confirm this. Disaggregating by sex, household size or household consumption level does not indicate a general impact on current basic school enrolment, although modelled results suggest there may be an impact on boys from smaller and wealthier households (see Annex F). There are no consistent effects of the Programme found on pupils dropping-out from school.

A (cross-sectional) regression analysis of school enrolment shows age, area (urban/rural), sex of the child, household size, distance to school, district, and religion all to be important determinants. These, and similar factors, are presumably constraining the 12 per cent of appropriately aged children in beneficiary households who do not attend basic schooling, despite Programme stipulations. The critical factors will need to be properly understood and means found to address them, if the Programme is to achieve its enrolment objectives regarding basic schooling.

The Programme does appear to have increased enrolment in secondary school, with an impact of around six to seven percentage points. This is a positive and significant result, although perhaps surprising, since it is not an objective or a condition of the Programme. It is possible that secondary school attendance is more often limited by cash, since fees are substantial, and the payments help families meet these costs. The models suggest that the impact was significant in poorer households, although the results do not consistently show an impact on secondary schooling (see Annex F). The results are not consistently significant by sex, with the cross-sectional models finding a significant impact only for boys. This raises questions about whether girls have also benefited from this increase in enrolment, although the models suggest that girls in poorer households, at least, have benefited.

The Programme has not had much impact on the mean number of days of absence from school reported by the households, which is perhaps not surprising since it was low at baseline. The models suggest that there is a small (half-day) increase in days missed in basic schooling due to the Programme.

Table 4.3 Education indicators

| Indicator | Treatment locations | | | Control locations | | | Crude diff in diff | Impact estimate from model |
|--|----------------------|------------------|----------|--------------------------|------------------|----------|----------------------|----------------------------|
| | Recipient households | | | Control group households | | | | |
| | 2007 | 2009 | diff | 2007 | 2009 | diff | | |
| Proportion of children aged 4 or 5 years currently attending nursery (pre-school) | 0.618 [194] | 0.766 [275] | 0.147* | 0.585 [92] | 0.756 [148] | 0.171*** | -0.0239 (0.0840) | -0.0451 |
| Proportion of children aged 6-17 years ever attended school | 0.91 [3,235] | 0.932 [3,283] | 0.021** | 0.917 [1,392] | 0.907 [1,449] | -0.01 | 0.0310* (0.0165) | 0.0343** |
| Proportion of children aged 6-13 years ever attended school | 0.89 [2,300] | 0.907 [2,007] | 0.016 | 0.889 [966] | 0.886 [905] | -0.003 | 0.0198 (0.0200) | 0.0284 |
| Proportion of children aged 14-17 years ever attended school | 0.959 [935] | 0.969 [1,276] | 0.01 | 0.977 [426] | 0.943 [544] | -0.034 | 0.0448** (0.0211) | 0.0513** |
| Proportion of children aged 6-17 years currently enrolled in school | 0.867 [3,230] | 0.882 [3,281] | 0.015 | 0.872 [1,392] | 0.853 [1,449] | -0.019 | 0.0337* (0.0188) | 0.0449*** |
| Proportion of children aged 6-13 years currently enrolled in basic school | 0.872 [2,295] | 0.884 [2,006] | 0.012 | 0.87 [966] | 0.867 [905] | -0.003 | 0.0147 (0.0212) | 0.0257 |
| Proportion of children aged 6-17 years currently enrolled in basic school | 0.82 [3,230] | 0.794 [3,281] | -0.026* | 0.816 [1,392] | 0.79 [1,449] | -0.026 | -0.000 | 0.0165 |
| Proportion of children aged 6-7 years currently enrolled in basic school | 0.642 [438] | 0.679 [314] | 0.038 | 0.685 [252] | 0.608 [176] | -0.077* | 0.115 (0.0685) | 0.116* |
| Proportion of children aged 14-17 years currently enrolled in secondary school | 0.14 [935] | 0.196 [1,275] | 0.056*** | 0.156 [426] | 0.153 [544] | -0.004 | 0.0595** (0.0272) | 0.0719** |
| Proportion of children aged 6-17 (currently enrolled in school) present in school on most recent day open | 0.933 [2,768] | 0.967 [2,843] | 0.034 | 0.964 [1,204] | 0.988 [1,219] | 0.024* | 0.0100 (0.0304) | 0.0137 |
| Mean number of days of school missed in the most recent two months for children aged 6-17 years who are enrolled in school | 1.324 [2,754] | 1.149 [2,717] | -0.175 | 1.927 [1,194] | 1.65 [1,180] | -0.277 | 0.102 (0.305) | -0.0788 |
| Proportion of children aged 6-17 years currently enrolled in school that are repeating a class | 0.119 [2,776] | 0.169 [2,865] | 0.050*** | 0.132 [1,207] | 0.192 [1,222] | 0.060*** | -0.0104 (0.0206) | -0.0113 |

Sources: OPM OVC-CT evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) There are eight classes in basic school (Standard 1–Standard 8) but, due to class repetition, students may attend for more than eight years. There are four classes in secondary school (Form 1–Form 4). (2) Standard errors of estimate of difference-in-differences are given in parentheses (): *** p<0.01; ** p<0.05; * p<0.1. (3) Number of observations over which the estimate is generated is given in square brackets [].

Class repetition has increased significantly in both Programme and control areas. It is possible that this reflects the impact of recent national expansions in enrolment for basic schooling. This indicator was intended to provide some measure of the extent to which children are benefiting from schooling (and, so, are promoted), and does not suggest that the Programme has had any effect to

date. However, this measure might be expected to take some time to change in response to household- and child-level factors, and currently seems to be reflecting a more general change over the study period.

In qualitative research conducted in November 2008, respondents suggested that more children were attending schools and that children were doing less work. Research conducted in November 2009 indicated that recipient caregivers are able to care better for children, making it more attractive for children to stay at home and easier for them to attend school (now better clothed and fed), and as caregivers impress on children – and appreciate themselves – the importance of attending school. It might be that reports reflected the experiences of particular age groups, particularly secondary school-age children, or particular areas.

The follow-up survey also undertook a limited survey of the main primary schools used by children in each community. This was intended to provide a cross-check on household reports of children's enrolment and attendance at school, because of concerns that respondents in Programme areas might feel obliged to report that children were attending school even if they were not. The results do not suggest that this occurred (Table 4.4). Only around 80 per cent of children could actually be identified in the school records, but piloting showed that this was often difficult due to the use of different names and errors in reported classes. There was no difference between Programme and control areas on this measure.

Table 4.4 School attendance using data collected from schools

| | Indicator | Recipient households | Control group households | Difference |
|----|--|----------------------|--------------------------|------------|
| S1 | Children whose enrolment was confirmed in the schools questionnaire (%) | 0.813 [1,350] | 0.807 [648] | 0.006 |
| S2 | Mean number of days absent in the last 10 days | 0.652 [992] | 1.017 [422] | -0.365** |
| S3 | Mean number of days absent in the reference period (1 March 2009 to 30 April 2009) | 1.122 [921] | 1.255 [399] | -0.133 |
| S4 | Children with attendance greater than 80% of effective days (%) | 0.950 [797] | 0.966 [326] | -0.016 |

Sources: OPM CT-OVC evaluation follow-up schools survey (2009) data.

Notes: *** p<0.01; ** p<0.05; * p<0.1. Number of observations over which the estimate is generated is given in square brackets [].

Information taken from the class registers shows that children from recipient households missed a slightly smaller average number of days of school in the preceding 10 days, with a significant difference of around one third of a day. However, there was no significant difference in the mean number of days missed over the longer reference period used, or in the proportion of children who had an attendance of more than 80 per cent of effective days, which was high in both areas. Overall, the results from the school survey are consistent with the household survey results, in suggesting that the Programme has had no substantial effect on school attendance. According to the school registers, the majority of children comply with the 80 per cent attendance stipulation, even in the absence of the Programme.

Experience from elsewhere has sometimes found that cash transfers can sometimes increase secondary enrolment rather than enrolment for basic schooling, where the latter is already high. However, other programmes have shown an impact on enrolment for basic schooling and on attendance.³³ Generally, attendance levels appear to be above Programme expectations and do not seem to represent a major concern. The impact on secondary school enrolment is clearly positive. However, the Programme rightly focused on increasing enrolment for basic schooling, and the children who are not enrolled for basic schooling, in the face of generally high enrolment rates, are likely to be some of the most disadvantaged. The Programme should invest some effort in trying to address this.

Health and nutrition

The Programme aims to reduce mortality and morbidity in children aged under five years through immunisation, growth control and vitamin A supplementation. The evaluation collected information on immunisation, vitamin A supplements received, common illnesses, and the source of consultation used. It also collected information on child anthropometrics and the use of growth monitoring services.

Overall, there is no evidence that the Programme has had an impact on measures of the health and nutritional status of children. Many of the health estimates are in the right direction, but are not statistically significant (Table 4.5).

The survey found a decline in the proportion of children fully immunised in both Programme and control areas, the former significant at the 10 per cent level. This is due largely to declines in the proportion reporting being immunised against polio and with DPT3. It is not clear what might have caused this – possibly disruption in immunisation services during the post-election violence.³⁴ The models also do not find a significant impact of the Programme when controlling for other factors, although they suggest there may be a positive impact in smaller households (see Annex F).

There has been an increase of 10 percentage points in the proportion of children taking vitamin A supplements amongst beneficiary households, which is statistically significant. There has been a smaller (insignificant) increase in controls, although the Programme impact estimate is not significant.

The proportion of children with a health card who use an appropriate source of care when sick with fever, a cough or diarrhoea shows changes in the expected direction, and the increase in the proportion using an appropriate source of care is quite large. However, no change is statistically significant – neither the change in the Programme locations, nor the crude and modelled measures of Programme impact. The models find evidence of an impact on the frequency of illnesses and of an increase in consulting an appropriate source of care when there is sickness in poorer households, however, which is encouraging, and the estimated effects are substantial (see Annex F).

³³ See, for example, Glewwe and Olinto (2004), Maluccio and Flores (2005), MCDSS/GTZ (2007), Miller *et al.* (2008), Schady *et al.* (2008), Secretaria Desarrollo Social (2008), Soares *et al.* (2007).

³⁴ The baseline survey report also raised the issue of whether some households in Programme areas falsely reported that their children were complying with what they believed to be Programme expectations in anticipation of the Programme. However, although they might be expected to do the same at follow-up (possibly more so), the econometric analysis finds no evidence for this behaviour, and the decline is also observed in the control areas.

Table 4.5 Health and nutrition indicators

| Indicator | Treatment locations Recipient households | | | Control locations Control group households | | | Crude diff-in-diffs | Impact estimate from model |
|--|---|----------------|---------|---|----------------|---------|---------------------|----------------------------|
| | 2007 | 2009 | Diff. | 2007 | 2009 | Diff. | | |
| Proportion of children aged 1–3 years fully vaccinated | 0.768 [229] | 0.645 [193] | -0.123* | 0.678 [114] | 0.628 [90] | -0.050 | -0.0730 (0.0830) | 0.0311 |
| Proportion of children aged 0–5 years given vitamin A supplements by a health worker in the last 6 months | 0.433 [756] | 0.539 [848] | 0.106** | 0.398 [384] | 0.420 [459] | 0.022 | 0.0842 (0.0689) | – |
| Proportion of children aged under 5 years who have been ill with a fever/cough/diarrhoea in the last month | 0.609 [668] | 0.574 [667] | -0.035 | 0.69 [335] | 0.721 [355] | 0.031 | -0.0656 (0.0710) | -0.0657 |
| Proportion of children aged 1–3 years with a health card | 0.561 [367] | 0.59 [373] | 0.029 | 0.639 [186] | 0.636 [199] | -0.003 | 0.0319 (0.0728) | 0.0525 |
| Proportion of children aged under 5 years who have been weighed by a health worker within the last 6 months | 0.304 [537] | 0.349 [543] | 0.044 | 0.246 [264] | 0.297 [289] | 0.051 | -0.0067 (0.0608) | -0.0051 |
| Proportion of children aged under 5 years ill with a fever/cough/diarrhoea in the last month who sought advice or treatment from an appropriate source | 0.735 [263] | 0.813 [289] | 0.078 | 0.757 [134] | 0.742 [204] | -0.016 | 0.0941 (0.1050) | 0.1270 |
| Proportion of children aged under 60 months (<2sd) stunted | 0.415 [458] | 0.357 [442] | -0.059 | 0.44 [251] | 0.37 [295] | -0.070* | 0.0115 (0.0550) | -0.0463 |
| Proportion of children aged under 60 months (<2sd) underweight | 0.206 [473] | 0.21 [456] | 0.004 | 0.196 [266] | 0.191 [296] | -0.005 | 0.009 (0.0474) | -0.0062 |
| Proportion of children aged under 60 months (<2sd) wasted | 0.06 [592] | 0.09 [648] | 0.03 | 0.094 [303] | 0.069 [341] | -0.025 | 0.0547* (0.0275) | 0.0595 |
| Growth in height (cm), children aged under 5 years at baseline | – | 16.38 [323] | – | – | 16.50 [202] | – | -0.13 | – |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) See Annex D for details of the anthropometric analysis and definition of *stunted*, *underweight* and *wasted*. (2) A child is defined as fully vaccinated if they have received at least the following vaccinations: three DPT, three polio, one BCG and one measles. (3) An appropriate source of care is defined as being a hospital, government health centre, mission/church/mosque hospital, private hospital/clinic, mobile clinic or community health worker. (4) Standard errors in parentheses (): *** p<0.01; ** p<0.05; * p<0.1. (6) Number of observations over which the estimate is generated is given in square brackets [].

The small and insignificant change in the frequency with which children undertake growth monitoring is consistent with the findings of the qualitative research, which suggested that ensuring the use of this service was not generally considered a priority by recipients, health workers or Programme staff.³⁵

³⁵ Although the cohort models suggest a significant effect of the Programme (see Annex F).

The anthropometric measures need to be interpreted with care. They suggest an apparently large decline in stunting in both the Programme and control areas and a (weakly) significant measure of impact of the Programme in increasing wasting, although the latter is not significant after controlling for other factors. It is possible that these indicators were affected by improvements in the measurement of children (particularly the youngest children) instituted in the follow-up survey, and a substantial proportion of children did not have an exact age in months.³⁶

An analysis of trends in mean z-scores, which would be more stable to measurement errors and make better use of the information available, finds a significant reduction in the mean weight for height z-score in both Programme and control areas. It does not find any significant impact of the Programme on any of the three measures, either in the crude or modelled analysis. There is, however, some variation in the results depending on the modelling approach (see Annex F)). Limiting the analysis to children under 36 months finds a *negative* impact of the Programme on weight for height, although this is the age group that might have been most affected by improvements in measurement procedures. The mean growth in children between baseline and follow-up, which should be more stable, also shows no significant impact of the Programme. The improvements in dietary composition identified would presumably be expected to improve the nutritional status of children eventually. However, despite some limitations to the data, it seems safe to conclude that the Programme has not, by this point, had a significant impact on child anthropometric status.

It should be noted that the sample sizes in Table 4.5 are relatively small, meaning that even some relatively large difference estimates are not statistically significant. Some of the indicators – nutritional status and the incidence of child illnesses – are also likely to reflect multiple causal factors, only some of which can be affected by the Programme. Others would be expected to be more responsive to the Programme, particularly the uptake of services. Although results vary appreciably, some other cash transfer programmes have shown an impact on similar health and nutrition indicators.³⁷ They remain an appropriate objective for the Programme, which should investigate the limited take-up of services.

Other indicators

The Programme encourages caregivers to obtain identity cards and birth certificates for OVCs, and death certificates for deceased parents. The evaluation collected information on the first two areas, and also collected information on child work.

There has been a substantial increase in the proportion of recipient children aged up to 17 years with a birth certificate or registration form, with a 12 percentage point increase over the controls (which began at a higher level; Table 4.6). This increase is significant for younger and older children. The models show that both smaller and larger households benefit from this increase in ownership of documents. However, the impact is only significant in better-off households; it is positive but not significant in poorer households (Annex F).

There is an increase in the proportion of all adults and of caregivers with identity cards in programme areas. However, there are similar increases in control households, meaning that the study found no (crude) impact of the programme on these measures.

³⁶ The variance of weight, height, and height-for-age and weight-for-age z-scores (although not weight-for-height z-scores) are all appreciably lower at follow-up. Note the weight for height measure is independent of age. The anthropometric analysis is detailed in Annex D.

³⁷ See, for example, MCDSS/GTZ (2007), Attanasio (2005), Miller *et al.* (2008).

The proportion of children aged six to 13 years old reported to be doing paid work has declined in Programme areas, which translates into a reduction of three percentage points attributable to the Programme. There is also a decline for older children, although this does not translate into a significant Programme impact.

There is no significant impact on the extent to which children participate in unpaid work. However, a reduction in the average hours reported is larger in Programme areas than in the control areas (although significant in both), translating into an average reduction of around four hours per week attributable to the Programme.³⁸ The cross-sectional models suggest that this is significant for older children, both boys and girls, and for households that were poorer at baseline. However, the cohort models do not give consistent results (see Annex F). It should be noted that the child work measures are reported by the households, and it is possible that they felt some pressure to report less work. However, such a reporting bias does not appear to have affected the enrolment figures for basic schooling, where it might also have been expected.

Table 4.6 Other welfare indicators

| Indicator | Treatment locations Recipient households | | | Control locations Control group households | | | Crude diff-in- diffs | Impact estimate from model |
|---|---|-------------------|----------------|---|-------------------|---------------|----------------------------|-------------------------------------|
| | 2007 | 2009 | Diff. | 2007 | 2009 | Diff. | | |
| Proportion of children (aged 0–17) holding a birth certificate or birth registration form | 0.193 [3,781] | 0.323 [3,566] | 0.130*** . | 0.319 [1,778] | 0.33 [1,751] | 0.011 . | 0.119*** (0.0402) | 0.118*** |
| Proportion of adults aged 20 years and over that report having a national identity card | 0.813 [2,353] | 0.853 [2,606] | 0.039** | 0.8 [956] | 0.85 [1,101] | 0.050* | -0.0106 (0.0303) | – |
| Proportion of caregivers (aged over 20 years) that report having a national identity card | 0.864 [1,444] | 0.918 [1,379] | 0.054*** | 0.839 [581] | 0.881 [571] | 0.042 | 0.012 (0.0303) | – |
| Proportion of children aged 6–13 years doing paid work | 0.053 [2,338] | 0.009 [2,032] | -0.044*** | 0.026 [981] | 0.015 [920] | -0.011 | -0.0332** (0.0141) | -0.0344** |
| Proportion of children aged 14–17 years doing paid work | 0.123 [936] | 0.036 [1,281] | -0.087** | 0.128 [427] | 0.059 [547] | -0.068* | -0.0182 (0.0479) | -0.0193 |
| Proportion of children aged 6–13 years doing unpaid work | 0.804 [2,112] | 0.782 [2,032] | -0.022 | 0.766 [879] | 0.837 [920] | 0.071 | -0.0928 (0.0584) | -0.0846 |
| Proportion of children aged 14–17 years doing unpaid work | 0.882 [841] | 0.822 [1,282] | -0.06 | 0.859 [396] | 0.881 [547] | 0.022 | -0.0826 (0.0584) | -0.0904 |
| Mean number of hours worked per week for children (aged 6–17) doing unpaid work | 18.248 [2,394] | 10.734 [2,607] | -7.514*** . | 14.283 [1,001] | 10.706 [1,252] | -3.577** . | -3.937** (1.903) | – |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Examples of unpaid work include housework or doing work for the family farm or business. (2) Standard errors in parentheses (): *** p<0.01; ** p<0.05; * p<0.1. (3) Number of observations over which the estimate is generated is given in square brackets [].

³⁸ The panel models give somewhat different results here, suggesting a significant impact on the frequency of unpaid work in younger children, but no significant reduction in the hours worked.

Qualitative research could also look at other factors not addressed in the quantitative surveys. It identified some positive and negative economic impacts. These were intensified in more remote areas where the cash base is lower, making the economy more sensitive to cash injections. On the negative side, some recipients in rural Nyanza reported inflated transport prices, particularly on pay days, as transport supplies are inelastic and prices increase. On the positive side, some caregivers started businesses with the transfer money, and those businesses still sustain them. While recipients and non-recipients mentioned new business, officials would also discuss the scale of the transfers: Ksh 600,000 (rural Nyanza) or Ksh 1 million (Kwale) going into a small community every two months has important multiplier effects for shopkeepers and other small businesses.

Widow inheritance (when a male relative, usually a brother, inherits the widow and children of his deceased relative), which is practised in Nyanza, was affected to some extent by the transfer. Female recipients reported greater confidence and self-reliance, enabling them to choose not to be inherited. Moreover, women focused more on their children than on finding a husband, since those children were also an important resource that allowed them to operate independently. The additional income was not reported as making widows more attractive to potential replacement husbands.

The impact on women's confidence was limited and mixed. Some women reported being able to speak more freely with health and education professionals because they had the money to pay for those services, and were able to secure credit from teachers and shopkeepers on the basis that their transfer would come. Improvements in children's appearance as a result of the transfer raised their confidence and that of their mothers. However, broader impacts on women's confidence were not reported, except by government officials who felt women were more confident with them, although the women themselves did not report this. Moreover, some recipients felt that non-recipients in the community became more jealous and would refuse to help them.

4.2.3 Keeping OVCs in the household

One of the main objectives of the Programme is to ensure that OVCs are retained, and properly looked after, within their families and the community. There are some difficulties in testing for an impact in this area of the Programme, although the study attempted to gather what information it could. Information was collected at the community level on newly-orphaned children and what happened to them, and its analysis is presented in Chapter 5.

It is possible to look at the number of OVCs being cared for in the households surveyed, and compare trends in the Programme and control areas. It can be seen that, between baseline and follow-up, there is reduction in the proportion of households that contain OVCs in both recipient and control households (Table 4.7), and the reduction is generally significant. Some reduction in these measures would probably be expected due to the nature of the sample – it consisted entirely of households containing OVCs and, as OVCs leave through natural processes (e.g. ageing and leaving home, movement between households), this proportion would be expected to decline somewhat. There are no significant changes in the mean number of OVCs in the households, either in Programme or control areas. This is also the case if these figures are disaggregated by sex.

No Programme impact can be identified on this process. This suggests the Programme is not affecting the retention of those OVCs *within* households. This is perhaps not a bad thing, since the community data suggests that norms for caring for orphans within the extended family are generally very strong, irrespective of Programme payments, and some movement between households is to be expected. It also suggests that there is no widespread problem of households seeking to foster OVCs in Programme areas simply for financial motives.

Table 4.7 Retention of OVCs in the household

| Indicator | Treatment locations Recipient households | | | Control locations Control group households | | | Crude diff-in-diffs |
|----------------------------------|---|-------------------|----------|---|-----------------|----------------|---------------------|
| | 2007 | 2009 | Diff. | 2007 | 2009 | Diff. | |
| Mean number of children | 3.367 [1,289] | 3.257 [1,289] | -0.11 | 3.53 [540] | 3.537 [540] | 0.007 . | -0.117 (0.106) |
| Contain orphans (%) | 97.337 [1,289] | 94.882 [1,289] | -2.456** | 94.916 [540] | 93.073 [540] | -1.843 . | -0.613 (1.501) |
| Mean number of orphans contained | 2.553 [1,289] | 2.572 [1,289] | 0.019 | 2.481 [540] | 2.467 [540] | -0.014 . | 0.0326 (0.0808) |
| Contain OVC(s) (%) | 100 [1,289] | 98.152 [1,268] | -1.848** | 100 [540] | 96.529 [533] | -3.471*** . | 1.623 (1.322) |
| Mean number of OVCs contained | 2.715 [1,289] | 2.742 [1,268] | 0.027 | 2.727 [540] | 2.666 [533] | -0.061 . | 0.0880 (0.0953) |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Standard errors in parentheses (): *** p<0.01; ** p<0.05; * p<0.1. (2) Number of observations over which the estimate is generated is given in square brackets [].

This analysis examines what happens to OVCs identified as members of households during the surveys. The limitation to this approach is that children could potentially be newly-orphaned and be lost from the community without appearing in either of the household surveys. This is addressed in Chapter 5.

Qualitative work in 2008 and 2009 found some impact reported on the retention of OVCs, although this is not seen in quantitative data. It found no reports of additional children being adopted either by recipients (through greater capacity, willingness or obligation), or by non-recipients (in the hope that they would be selected in later targeting rounds). This was not expected by the Programme. Fostering continues to be driven by family obligations in each district. However, recipients and non-recipients expressed greater enthusiasm about fostering: recipients feel more rewarded for taking care of OVCs and have greater capacity to do so; non-recipients hope they might be selected into the Programme in further targeting rounds. Respondents suggested that retention improved as recipient households had better capacity to care for OVCs, who were correspondingly less inclined to leave. Most importantly, respondents identified that households were better able to care for the OVCs that they already have, and that these children appeared healthier and 'neater' as a result.

4.3 Impact of Programme conditions

One objective of the evaluation was to assess whether the imposition of conditions with penalties had a greater impact than the payment of the cash transfer alone. In all areas, beneficiaries were told that there were various expectations of them, as detailed in Chapter 1. It was intended that conditions with monitoring and penalties would be imposed on payments in three districts and one sub-location of Nairobi. There would be systematic, formal monitoring of compliance with conditions, rather than less formal monitoring on a case-by-case basis. Penalties would also be imposed on households that did not comply with the conditions. The imposition of conditions with penalties was not allocated randomly but, rather, in line with the availability of services in the districts.

The implementation of conditions with penalties was also incomplete by the time of the follow-up survey. It took the Programme some time to define what it would mean in practice, delaying

implementation. Chapter 2 has shown that the expectations of the Programme have not been fully communicated, with many households unsure about the conditions and penalties.

As a result of this, and the design restrictions, the evaluation has not been able to properly assess the impact of conditions with penalties, and any results must be considered indicative. Some analysis was undertaken to try to investigate whether there was evidence for an impact, using three approaches. The analysis compared districts where conditions with penalties were imposed with districts where they were not. It examined outcomes in health and education that might be expected to reflect their effect. These measures were also compared between households that stated that there were education and health conditions that must be complied with and households that did not (irrespective of location), and also between households that believed that they would be subject to penalties for non-compliance with (any) rules and households that did not. A difference-in-differences approach was used in each of the three cases to control for observable and non-observable differences across the groups. The assumptions are less likely to hold than is generally the case. In particular, the last two comparisons are subject to concerns that the households who know about conditions or penalties may have unobservable traits that vary over time and that differ from households that do not know about these Programme features (see Annex F for further details).

Table 4.8 Estimates of the effect of conditions on health indicators, crude difference-in-differences results

| Indicator | Comparison of districts with/without conditions and penalties | Comparison of knowledge of conditions | Comparison of knowledge of penalties |
|---|---|---------------------------------------|--------------------------------------|
| Proportion of children aged 1–3 years fully vaccinated | -0.204 (0.115) | -0.0929 (0.114) | 0.119 (0.111) |
| Proportion of children aged under 5 years who have been ill with a fever/cough/diarrhoea | -0.0209 (0.100) | 0.0540 (0.0927) | -0.0479 (0.0640) |
| Proportion of children aged 1–3 years with a health card | -0.0438 (0.0901) | -0.0903 (0.0859) | 0.0749 (0.0685) |
| Proportion of children aged under 5 years who have been weighed by a health worker within the last 6 months | -0.0794 (0.0825) | -0.0421 (0.0905) | 0.00335 (0.0782) |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) p-values of the coefficient in parentheses (): *** p<0.01; ** p<0.05; * p<0.1. (2) Estimates are weighted and standard errors are adjusted for the clustered structure of the sample.

Crude comparisons for health indicators do not show that the conditions with penalties have a significant impact in any of the comparison categories (Table 4.8). For education indicators, crude results suggest, if anything, that conditions with penalties have a negative impact, although these results are not consistent across the different approaches (Table 4.9). Modelling of the same outcomes generally renders these differences insignificant (Annex F). Therefore, the results do not provide any evidence for an impact from imposing conditions with penalties but, given the limitations, can only be considered indicative at best.

Table 4.9 Estimates of imposing conditions on education indicators, crude difference-in-differences results

| Indicator | Comparison of districts with/without conditions with penalties | Comparison of knowledge of conditions | Comparison of knowledge of penalties |
|--|--|---------------------------------------|--------------------------------------|
| Proportion of children aged 4–5 (48–71 months) currently attending nursery (pre-school) | 0.210* (0.118) | -0.0498 (0.104) | 0.0331 (0.150) |
| Proportion of children aged 6–17 years who have ever attended school | 0.000418 (0.0180) | -0.0395* (0.0189) | -0.00264 (0.0144) |
| Proportion of children aged 6–12 years who have ever attended basic school | 0.0103 (0.0277) | -0.0631** (0.0264) | 0.000778 (0.0242) |
| Proportion of children aged 13–17 years who have ever attended secondary school | -0.0304 (0.0330) | 0.0130 (0.0345) | -0.00916 (0.0274) |
| Proportion of children aged 6–17 years currently enrolled in school | -0.000191 (0.0195) | -0.0499** (0.0189) | -0.0115 (0.0177) |
| Proportion of children aged 6–12 years currently enrolled in basic school | 0.00212 (0.0270) | -0.0759** (0.0277) | 0.0141 (0.0265) |
| Proportion of children aged 13–17 years currently enrolled in secondary school | -0.0345 (0.0351) | 0.00400 (0.0359) | -0.00349 (0.0287) |
| Proportion of children aged 6–17 (currently enrolled in school) present in school on most recent day open | -0.114** (0.0434) | 0.0332 (0.0195) | 0.0332* (0.0187) |
| Mean number of days of school missed in the two most recent months for children aged 6–17 years who are enrolled in school | -0.0124 (0.266) | 0.105 (0.214) | -0.113 (0.295) |
| Proportion of children aged 6–17 years currently enrolled in school that are repeating a class | 0.0634** (0.0261) | 0.0320 (0.0222) | 0.0557** (0.0256) |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) p-values of the coefficient in parentheses () : *** p<0.01; ** p<0.05; * p<0.1. (2) Estimates are weighted and standard errors are adjusted for the clustered structure of the sample.

4.4 Conclusions

This chapter has examined the impact of the Programme on household consumption and on a range of indicators of child welfare, including health and nutrition, education, child work, and birth registration. Assessing the impact is complex, and the findings are sometimes sensitive to the method used. Nevertheless, broad conclusions can be drawn.

The impact of the Programme to date has been mixed: a number of areas show a substantial positive impact, while others do not. The Programme has substantially increased real household consumption and reduced poverty levels. It has increased food expenditure and dietary diversity. It has probably increased the ownership of a number of assets, most clearly mosquito nets, although it has not increased livestock holdings. Beneficiary households are more likely than controls to hold savings.

In education, there has been no general increase in enrolment in basic school in the relevant age group, despite this being an explicit expectation of the Programme and in the face of a general drive to increase basic school enrolment and attendance. There does not appear to be a positive impact on attendance, which was already high, or on class repetition. In contrast, the Programme appears to have significantly increased enrolment in secondary school – perhaps surprisingly, since it is not a specific Programme objective. The factors keeping the remaining basic school-age children out of education warrant attention by the Programme.

Overall, there is no evidence that the Programme has had an impact on measures of the health and nutritional status of children. Vitamin A supplementation has increased significantly in Programme areas, although impact estimates are not significant. A number of the other health estimates are in right direction, but are also not statistically significant. The models find evidence of an impact on reducing the frequency of illnesses and of an increase in consulting an appropriate source of care when there is sickness in poorer households, however, which is encouraging. Puzzlingly, immunisation coverage has declined in all areas, and significantly in Programme areas. There is no evidence of an impact on the uptake of growth monitoring, despite this being a Programme stipulation. The Programme has not had an impact on the nutritional status of children, although the results need to be treated with care.

The analysis of health indicators was based on relatively small samples, and some of the indicators will reflect complex and multiple influences. Others would be expected to be more quickly responsive to the Programme, however, particularly the uptake of preventive services. They remain an appropriate objective for the Programme, which should seek to address the limited uptake.

The Programme has increased the proportion of children with a birth certificate or registration form – although, surprisingly, not the ownership of identity cards by carers. It has also reduced the proportion of younger children reported to be doing paid work, and the amount of time spent on unpaid work. The latter benefits boys and girls, and households which were poorer at baseline, although the findings vary somewhat between models.

The household survey showed that OVCs are generally retained within the extended family, and there is no Programme impact on this process. The Programme has made it easier for households to maintain their standard of living, however, and to care for those OVCs.

The impact of the Programme on consumption levels affects smaller households to a much greater extent than larger households, as would be expected with a fixed value per household. An examination of the impact by household size on other indicators shows a variable pattern, however.

For a number of indicators, the Programme impact is larger, or is only significant, for (pre-transfer) poorer households. Poorer households benefit from the improvements in secondary school enrolment, where they appear to benefit girls as well as boys. Reductions in the frequency of paid and unpaid child work are concentrated in poor households. The analysis also suggests that the Programme may have contributed to reducing the incidence of coughs and fevers in poorer households, and to an increase in these households' use of appropriate sources of care when

there is sickness. In contrast, the increase in birth certificates appears to benefit better-off households.

These results strengthen the case for effective targeting of benefits at poorer households, and for considering indexing payments to household size.

Limitations to the evaluation design and in the implementation of conditions with penalties mean that little can be said with confidence about their effect. The analysis that was undertaken did not find any evidence of an impact.

5 The Programme and the community

This chapter examines the perception and impact of the Programme in the communities where it operates. It looks at the extent to which OVCs are retained within the community, and whether this has changed with the introduction of the Programme. It also reports on the general background characteristics of the communities and their perceptions of the Programme.

5.1 Retention of OVCs in the family and community

5.1.1 Introduction

It is a primary objective of the Programme to use cash transfers as an instrument to **retain orphans and vulnerable children (OVCs) within their families and communities**, as well as promoting better educational and health outcomes. Assessing the extent to which the Programme achieves this objective is not simple, since it requires identifying OVCs from the point at which they become orphaned or vulnerable and finding out what happens to them. Any who do not remain within households in the community would not be picked up in a household survey, and so their fate would be unknown.³⁹

The survey experimented with using community interviews to identify orphans and what had happened to them. Members of the community were asked about children who had recently become orphans in their community – that is, had lost one or both parents in the last 12 months. This explicitly included any children who had become orphans and then left the community. Efforts were made to gather the broadest range of members from the community. They were asked only to talk about those locations or sections within their community where they could give reliable information. Community members were asked to identify the orphans and say what had happened to them, including with whom they were now living, where this was known. While this is probably not a reliable way to capture information on all new orphans, the details on what happened to those who were identified was useful. While it should be used with caution, it suggests some clear conclusions.

Reports were provided by 227 communities in 2007 and 156 in 2009, when a higher proportion of communities did not feel able to name the recent orphans in their community or a sub-area of their choice.⁴⁰ In those communities that reported, the average number of orphans identified was 9.9 orphans per community in 2007 and 8.8 in 2009. Overall, there are community reports on 2,244 orphans in 2007 and 1,367 in 2009. The children that were reported by the communities have a slightly younger age distribution than the OVCs identified in the household survey, as would be expected, since the former are recently orphaned. They are also somewhat disproportionately male: some 55 per cent of children reported in 2007 were male and 59 per cent in 2009, suggesting the omission of some female children in the reports provided. The data is weighted by the sum of the household weights for each community, to be consistent with other analysis of the community questionnaire data.

³⁹ Considering orphanhood, in particular, household surveys often miss adult deaths when they are reported retrospectively; also, they are usually sufficiently rare that a large number of households need to be observed to find sufficient observations. Demographic surveillance systems aim to overcome these problems, but such an approach was well beyond the scope of this evaluation.

⁴⁰ A total of 203 community interviews were conducted in 2009, fewer than in 2007 due to changes in the process for defining the boundaries to communities. In addition, there were communities that stated no children had been orphaned in the previous 12 months (3 per cent in 2009 and 8 per cent in 2007).

It should be noted that there are limitations with respect to comparability across time. The community members were asked to select the geographical area where they knew all the recent orphans. It is likely that some of the community groups in 2009 will have had a different geographical area in mind than their counterparts in 2007. Hence, it could be misleading to interpret a difference between 2007 and 2009 as a change resulting from the Programme. It is more appropriate to focus on the similarities between the 2007 and 2009 results. Both surveys draw a remarkably consistent picture of high retention of orphans, both within their families and within their communities.

5.1.2 Care arrangements for recent orphans

Table 5.1 shows who cared for children who had lost one or both parents in the preceding year. Both at baseline and in the follow-up survey, the vast majority of children stayed with relatives – some 95 per cent of the children stayed with their relatives at baseline, and this was 90 per cent at follow-up. The difference between the two surveys might be due to the higher proportion of orphans whose carers were not identified by the community in 2009.⁴¹ The proportion of OVCs who stayed with a relative was similar in Programme and control areas. Step-parents were the most common source of care for the children who were not cared for by relatives. The proportion of orphans who moved out of the village or area was low – around 2 to 5 per cent – and is also similar in Programme and control locations. In fact, most of the children who moved out of the area were also reported to be staying with relatives elsewhere.

This suggests that the Programme has not had any effect on the retention of orphans in their communities, or on the extent to which they are cared for by relatives. That is largely because the vast majority were remaining within the area and being cared for by relatives even before the Programme began, so there was little scope to increase it. The Programme should reconsider whether the stated objective of retaining children within their families and communities is an appropriate core objective. It might be more appropriate to focus on the objective of improving the welfare of OVCs, together with systematic follow-up by the Department of Children's Services (DCS) staff or representatives of the small number of children who might not be cared for through the usual family mechanisms.

Compared with 2007, in 2009 a higher proportion of orphans were reported to be staying with grandparents and a lower proportion with the remaining parent. This is a puzzle and seems to be due, partly, to a higher proportion of orphans who lost both parents (rather than one) in the preceding year, reported in 2009.

Siblings staying together

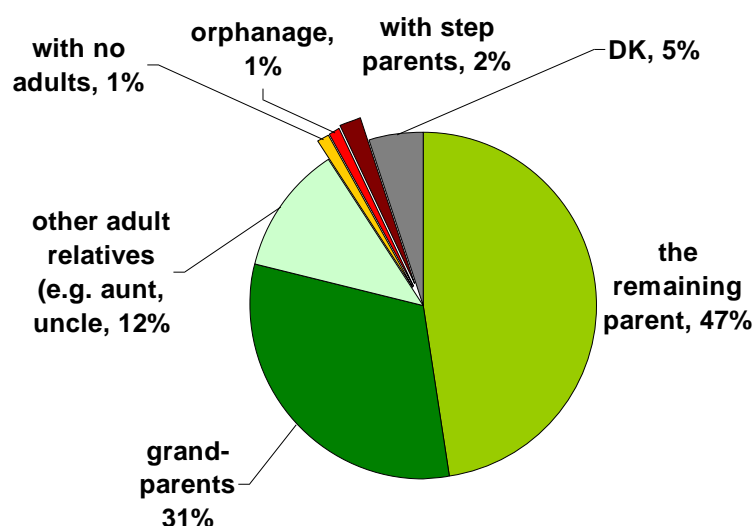
The siblings of recent orphans were identified by the community. Interviewers recorded information on whether the siblings stayed together, and found that the majority of siblings stayed together. Of the OVCs reported as having a sibling,⁴² more than 90 per cent stayed together – in 2007, as many as 95 per cent were reported to have stayed together and, in 2009, 92 per cent.

⁴¹ The fact that a smaller proportion of communities reported in 2009 might also be a factor. Given that, it would not be safe to consider these differences between the two surveys to be a measure of change.

⁴² Oddly, the proportion of orphans with a sibling reported varies substantially between 2007 (86 per cent) and 2009 (58 per cent).

Table 5.1 Care arrangements for children whose parent(s) died in the preceding 12 months, 2007 and 2009

| | 2007 | | | 2009 | | |
|--|---------------------|-------------------|--------------|---------------------|-------------------|--------------|
| Characteristics of OVCs | Programme locations | Control locations | Total | Programme locations | Control locations | Total |
| Proportion cared for by: (%) | | | | | | |
| The remaining parent | 57 | 64 | 61 | 48 | 46 | 47 |
| Grandparent(s) | 17 | 20 | 19 | 28 | 36 | 31 |
| Other adult relative(s) | 18 | 12 | 15 | 14 | 10 | 12 |
| Step-parent(s) | 3 | 2 | 3 | 1 | 3 | 2 |
| Other adults – not relatives | 0 | 1 | 1 | 1 | 1 | 1 |
| No adults | 2 | 0 | 1 | 0 | 2 | 1 |
| Orphanage | 0 | 0 | 0 | 1 | 0 | 1 |
| Not known/not specified | 3 | 0 | 1 | 8 | 2 | 5 |
| Proportion who stayed with (any) relative (%) | 92 | 96 | 94 | 90 | 92 | 91 |
| Proportion moving out of the village/area (%) | 3 | 2 | 3 | 5 | 2 | 4 |
| N = number of orphans (unweighted) | 1,744 | 482 | 2,226 | 930 | 325 | 1,255 |

Figure 5.1 Care arrangements reported for recent orphans, 2009

Single and double orphans

It is useful to differentiate between double orphans (both parents dead) and single orphans (one parent dead). Many single orphans stay with their remaining parent, while the fate of children losing both parents is a particular concern. The baseline survey collected information on all children who had lost a parent in the previous 12 months. The follow-up community questionnaire extended this and also asked whether the other parent was alive or not. In this way, the questionnaire can be used to distinguish single from double orphans, and examine what happened to them. Across the study population as a whole, some 33 per cent of children who lost one parent in the preceding 12 months had also lost the other parent, either during those 12 months or previously.⁴³ The remaining two thirds were single orphans.

As might be expected, the majority of single orphans live with the remaining parent (75 per cent), although a significant fraction (20 per cent) lives with other relatives. None was reported to live with non-relatives. For double orphans, grandparents are the main carer in almost 60 per cent of cases, and another 25 per cent of children stayed with other relatives. Some 15 per cent stayed with non-relatives, or their carer was unknown to the community members reporting. Double orphans were substantially more likely to move out of the community than were single orphans.

Table 5.2 Care arrangements for single and double orphans whose parents died in the preceding 12 months, 2009

| Characteristics of OVCs | Double orphan | Single orphan | Total |
|--|---------------|---------------|---------------------------|
| Proportion cared for by: (%) | | | |
| The remaining parent | — | 75 | 48 |
| Grandparent(s) | 59 | 15 | 30 |
| Other adult relative(s) | 25 | 5 | 12 |
| Step-parent(s) | 4 | 0 | 2 |
| Other adults – not relative | 2 | 0 | 1 |
| No adults | 3 | 0 | 1 |
| Orphanage | 2 | 0 | 1 |
| DK | 6 | 5 | 5 |
| Proportion who stayed with (any) relative (%) | | | |
| | 84 | 94 | 91 |
| Proportion moving out of village/area | | | |
| | 7 | 2 | 4 |
| N = number of orphans (unweighted) | 439 | 800 | 1,239⁴⁴ |

⁴³ This information is not disaggregated between Programme and control areas because numbers are small.

⁴⁴ In 2009, n = 1367 OVCs were listed across 156 communities. A number of cases are excluded from this and subsequent tables, mostly because the death was not reported to be within the previous 12 months, or because information is missing with which to classify the status of child as a single or double orphan.

Figure 5.2 Care arrangements for single orphans, 2009

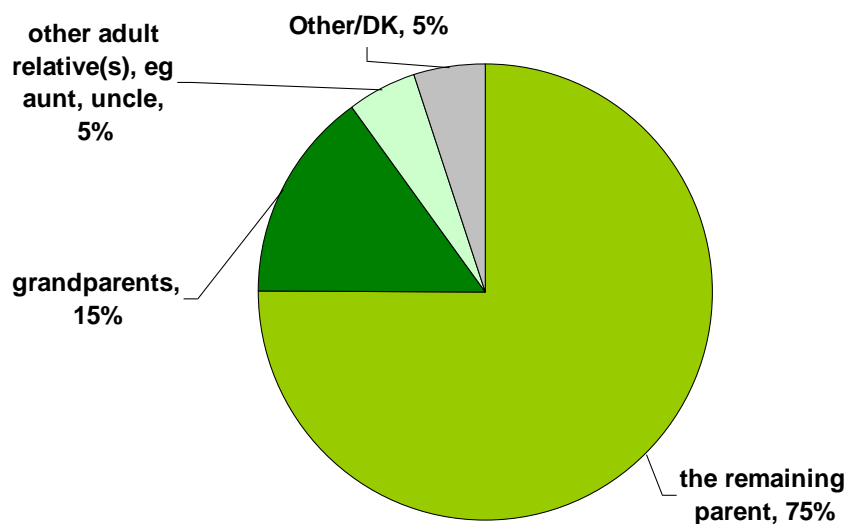
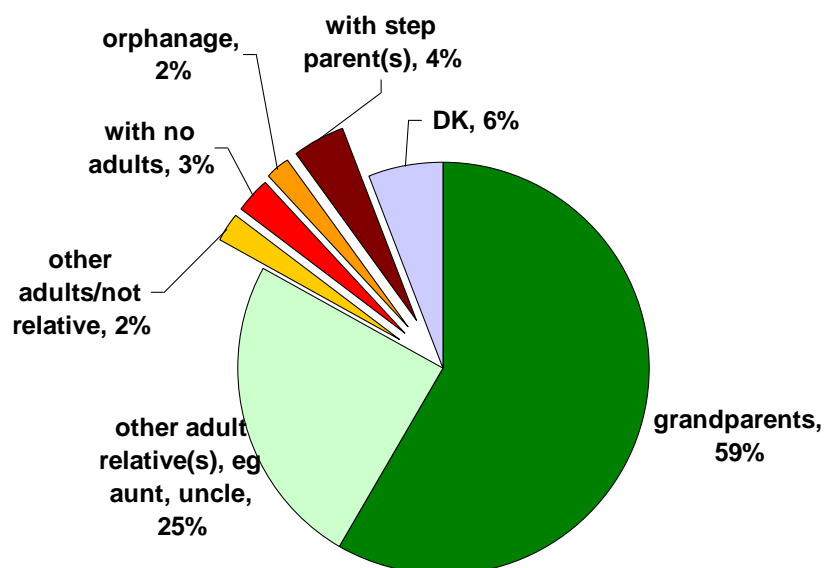


Figure 5.3 Care arrangements for double orphans, 2009



Retention within the community

As shown in Table 5.1, less than 5 per cent of orphans left the community after one or both parents died. The fraction is higher for recent double orphans, although almost all of them stay with a relative. Of the 1,239 recent orphans reported in 2009, only 45 orphans had to leave the community. Of those, 40 stayed with a family member: the remaining parent (4), grandparents (16), an adult relative (20).⁴⁵ In 2007, only 48 out of 2,217 children whose parent(s) had died during the preceding year were reported to have left the community. Of those, 42 stayed with a relative, and only five had to leave the community and not stay with a relative.

In other words, orphans who left the community did so overwhelmingly in order to stay with a relative. With respect to retaining recent orphans within the community, the evidence shows that this is already happening, with a retention rate of more than 95 per cent, both in 2007 and 2009.

The high proportion of orphans who are cared for by relatives is well in line with social norms. Community members expect that a child will stay with his or her grandparents if both parents die. Table 5.3 shows social norms around the care of children in the event of the death of one or both parents. This information was sought in the community questionnaire. Most communities identified the paternal grandparents as the usual carers, in the event that both parents die. However, there was some variation: maternal grandparents and the father's brother were also commonly identified. Across the study communities as a whole, there was limited expectation that a man should look after his brother's widow.

Table 5.3 Social norms in the case of the death of a parent, 2009

| | Programme locations | Control locations | Total |
|---|---------------------|-------------------|------------|
| Proportion of households living in communities reporting: | | | |
| Usual main caregiver in case both parents of a child aged 10 years die | | | |
| Paternal grandparents | 77 | 77 | 77 |
| Maternal grandparents | 44 | 32 | 39 |
| Brother of the father | 19 | 22 | 20 |
| Whichever family member has financial means | 4 | 5 | 5 |
| Usual female caregiver in case mother dies | | | |
| Paternal grandmother | 67 | 90 | 77 |
| Maternal grandmother | 37 | 30 | 34 |
| Most likely to look after widow if father dies | | | |
| Widow's brother | 8 | 14 | 11 |
| Widow looks after herself | 63 | 75 | 68 |
| Husband's brother | 12 | 35 | 22 |
| N = number of communities | 151 | 52 | 203 |

Note: More than one answer was possible, the table shows only the most commonly given answers.

⁴⁵ Of the remaining five children, three went to an orphanage, one lives with an adult stranger, and the caring arrangement for the fifth child is not known. *Note:* The numbers quoted in this paragraph are unweighted.

5.2 Community perceptions of the Programme

The follow-up survey community questionnaire asked community members in Programme areas about their perceptions of the Programme. The survey covered 151 communities, weighted by the sum of the household weights per community.

Overall, community members in most communities feel that the neediest families have been targeted by the Programme. Most community members believe that Programme recipients are not free to spend the money from the payment in any way they choose, but have obligations to which they were committed when they joined the Programme. This sense of obligation is true both in the areas subject to Programme conditions with penalties and in the areas without them. School enrolment and ensuring adequate food and nutrition were the two most commonly cited obligations. Communities in areas where conditions with penalties are imposed were more likely to identify the various obligations, perhaps reflecting the greater emphasis given to them there. However, knowledge was by no means universal: only 34 per cent of communities in areas subject to Programme conditions with penalties identified immunisation as an obligation for recipients, for example, and only 22 per cent identified attendance at a primary health care facility.⁴⁶ For the latter, this was a lower response than in the areas not subject to conditions with penalties. Attendance at community awareness sessions was rarely cited.

Overall, this suggests a patchy knowledge amongst communities about what is expected by the Programme. It is consistent with the picture found at household level reported in Chapter 2.

Table 5.4 Programme perceptions in treatment communities, 2009

| | Conditions with penalties (%) | Without conditions with penalties (%) | Total (%) |
|---|--|---|--------------|
| OVC households living in a community where community members have the perception that: | | | |
| the neediest children have been selected | -- | -- | 85 |
| recipients have obligations | 94 | 93 | 94 |
| school enrolment is an obligation for recipients | 88 | 77 | 83 |
| daily attendance at school is an obligation for recipients | 62 | 43 | 54 |
| appropriate immunisation of children is an obligation for recipients | 34 | 9 | 22 |
| attendance at a primary health centre is an obligation for recipients | 22 | 27 | 24 |
| enough food and nutrition for children is an obligation for recipients | 81 | 69 | 76 |
| clothing for children is an obligation for recipients | 54 | 32 | 44 |
| attendance at Programme community awareness sessions is an obligation | 7 | 4 | 6 |
| Base: number of communities (unweighted) | 87 | 64 | 151 |

⁴⁶ These are weighted figures so, strictly speaking, they refer to the percentage of OVC households in the sample living in communities with those characteristics, rather than the percentage of communities *per se*.

5.3 Summary and conclusions

Overall, the findings present a positive picture on the retention of orphans within the wider family and the community. The vast majority are retained within the family and remain in their community. This is true even for children who have lost both parents. This is well in line with social norms. Community members expect that relatives will take care of orphans – generally the remaining parent, or grandparents.

These strong social norms meant that this was true even before the Programme began operating and, as might have been anticipated, the Programme has not increased it. Of the small numbers who leave the community, almost all left in order to stay with a relative. This suggests that the objectives of supporting families to maintain the welfare of the OVCs they are caring for should be considered the primary objective of the Programme, rather than retention in the family and community *per se*.

Most communities report that the neediest children were selected for the Programme. There is a perception that Programme recipients have obligations in return for the support from the Programme. Knowledge of these obligations is generally somewhat higher in areas where conditions are enforced with penalties, compared to the areas where they are not, but knowledge is, nevertheless, patchy overall.

6 The cost of the Programme

This section aggregates and summarises the operational costs of the Programme during its pilot phase (Phase 2). It includes the cost of designing the Programme, identifying the beneficiaries, disbursing and accounting for the funds, and monitoring their use. It is therefore intended to be retrospective in nature, rather than forward-looking, and measures the actual costs, rather than the hypothetical future costs that might be incurred if the Programme were to be scaled up or its design amended. The accuracy and level of detail of the analysis was also dependent on the information that could be made available. Nonetheless, it provides a description of costs incurred to date, and an indication of the costs that might be faced in the future.

6.1 Scope of analysis

6.1.1 Time and geographical location

The study analyses Phase 2 expenditure between July 2006 and June 2009. This covers three complete financial years, according to the Government of Kenya's calendar: 2006/07, 2007/08 and 2008/09. Expenditure from the end of Phase 1 or from the start of Phase 3 during this period is excluded wherever possible. This reduces 'contamination' of the analysis of costs in the pilot phase by costs that should instead be attributed to either the pre-pilot or the recent large expansion.

The financial support from UNICEF and DFID in Phase 2 was concentrated in the seven districts in which OPM's wider evaluation is taking place.⁴⁷ The analysis at district level is therefore confined to these seven districts, in order that the results can be compared against the findings from the quantitative and qualitative surveys in the rest of this report. The districts supported exclusively by the Government of Kenya are not covered in this analysis because the design and implementation of the programme there differs substantially from the pilot and from the Programme that is currently being scaled up in Phase 3.

For central government expenditure – the CT-OVC secretariat of the Department for Children's Services (DCS) in the Ministry of Gender, Children and Social Development (MGCSD) – and for the provincial offices, the analysis includes all the spending that has been accounted for as part of the CT-OVC project, even though some of the funds may have been used to support districts other than the seven under review. Supplies and services such as management, data entry, communication and stationery are used to serve all districts without distinction, and the costs cannot easily be separated into those of the districts supported by UNICEF and DFID, and the districts supported by the Government of Kenya.

In the financial year 2006/07, the costs were related entirely to starting up the Programme in the pilot districts: there were no transfers to households. The first payments to households in this phase began in one district in July 2007. The first month when transfers were disbursed to households in all seven districts was December 2007. The Programme can therefore be considered to have reached maturity for only 18 months of the period under review. Moreover, a major expansion of the Programme from fewer than 5,000 households to more than 15,000 households took place in June 2008, so many of the costs in the financial year 2007/08 also relate to start-up in the new locations. There has been only one year (2008/09) in which the Programme has been operating in the seven districts without expanding.

⁴⁷ Garissa, Kwale, Nairobi, Suba, Homa Bay, Kisumu and Migori.

6.1.2 Types of cost

This costing study contains the following elements:

- It reviews and analyses the *financial costs* of the CT-OVC Programme. This is a retrospective examination of the actual cost paid for all the inputs of the Programme. The cost of assets purchased (e.g. vehicles) is included in full as a cost in the financial year of purchase, not discounted over a number of years;
- It includes an estimate of the value of the time spent on the Programme by government staff in the ministry and in the provincial and district offices. This is derived from assumptions about which staff are expected to work on the Programme and how much of their time it consumes (government officers work on a number of different activities, and timesheets are not available to calculate these figures exactly);
- Costs are in nominal terms. Since the Programme data cover only a small number of years, the study does not make adjustments to account for inflation or for depreciation of capital investments;
- The analysis includes both recurrent and capital costs incurred on the Programme by development partners during the pilot phase; and
- It identifies *cost-efficiency*, not *cost-effectiveness*. It does this by calculating the cost of a one-unit transfer to the beneficiary. Since the objective of a conditional cash transfer programme is not only to transfer money to the household but also to achieve human development outcomes, which may involve complex and costly activities, the effectiveness of a programme is not always directly related to its cost-efficiency (Caldés *et al.*, 2004a). A higher administrative cost may sometimes be necessary to improve the social outcomes of a programme – such as to ensure effective targeting, or to monitor compliance with conditions. The costing data on their own cannot be used to determine cost-effectiveness.

The following elements lie outside the scope of the costing and are not included:

- The *economic costs* of the Programme. The study does not attempt to impute the value of the time of volunteers, neither does it attempt to estimate the opportunity cost of employing the resources – including human resources – in the CT-OVC Programme rather than an alternative programme. This is because necessary data, such as on the amount of time spent by volunteers, are not available;
- The cost of the Programme in the 40 districts funded by the Government of Kenya. Some of the expenditure by the Government of Kenya at headquarters and PCO levels may have been used on behalf of the seven districts being analysed, but the value cannot be ascertained;
- Development partners' staff costs. Again, where development partners are working on several projects at once, it is difficult to estimate the proportion of their salary that can be ascribed to the Programme;
- Costs to beneficiaries – for example, in the form of transport to collect the payment. Questions about the cost to households are discussed in Section 2;
- Analysis of services provided by the inputs that are bought. For instance, where UNICEF has provided a vehicle to a District Children's Officer (DCO) for use on the Programme, the study does not explore whether the DCO also uses the vehicle for other purposes. The whole cost is attributed to the Programme; and
- Normative judgements. The study does not make judgements as to whether unpaid inputs – such as volunteer labour – should, in fact, be paid.

6.2 Method

OPM collected raw budget and expenditure data for the three financial years from electronic records held by the DCS, UNICEF, DFID and the World Bank. The team disaggregated the data by budget line with the assistance of DCS and UNICEF staff and consultants. The data were also disaggregated by activity to show whether funds were spent, for instance, on identifying the target households, enrolling them or monitoring compliance with conditions. In some instances the allocation of costs to activities is unambiguous (Caldes *et al.*, 2004, refer to these as 'directly assignable costs') – for example, the cost of the Postal Corporation of Kenya's (PCK's) commission for administering the transfer is clearly distinguishable in the accounting records. For some other activities, the details were extracted from paper records in the DCS in which the Provincial and District Children's Officers have itemised how they used their allocation of funding; for others, they were estimated from the activities planned in the budget.

In order to improve the accuracy of the estimate of costs for Phase 2, the team made assumptions about, for instance, the proportion of non-salary costs spent by provincial and district children's offices on implementing Phase 2 of the Programme compared with the proportion spent contributing to the start-up of Phase 3.⁴⁸ Assumptions were also made regarding the breakdown of expenditure by budget line and by activity where this information was not available: this was done by reviewing the breakdown in the original budget or by looking at the breakdown in other provinces or districts where information was available.

6.3 Expenditure flows

Expenditure on the project pilot phase (Phase 2) between July 2006 and June 2009 has been spent through the following channels:

- funds channelled by UNICEF through the government ('Revenue');
- UNICEF funds spent by UNICEF on the government's behalf ('Appropriations-in-Aid' (A-in-A));
- funds spent by bilateral and multilateral organisations – UNICEF, DFID and the World Bank – independently of government; and
- the Government of Kenya's own funds.

Wherever possible the project aims to pass funds through the government's development budget as **revenue expenditure**. Many of the recurrent costs of the Programme are spent this way: they include the costs of travel, accommodation in the field, communications, stationery and data entry. These funds appear in the government budget and are assigned to a budget code. However, recurrent costs are only a small proportion of the costs of the overall project: just 6 per cent of Programme costs excluding household transfers are attributable to revenue expenditure.

Appropriations-in-aid are spent by UNICEF on behalf of the government to purchase assets such as vehicles and computer equipment, and programmes of technical assistance, which would otherwise go through a lengthy procurement process if they were to go through the government budget. All the payments to households and the commission to the PCK are spent through this route, not through the government budget. Even excluding the transfers to households, these make up some 73 per cent of total costs.

⁴⁸ See Annex G for details of some of the main assumptions made in the costing study. Note that the team did not have direct access to all of the raw data and so was sometimes dependent on summary information kindly supplied by the relevant parties. This limited the extent to which it could be checked directly by the team.

DFID and the World Bank have spent funds directly on consultancy fees and workshops, and the Government of Kenya has spent its own resources on staff at central, province and district levels. These costs amount to 21 per cent of non-transfer costs.

6.4 Costs

6.4.1 Total Programme costs

In the three financial years from July 2006 to June 2009, the CT-OVC project spent some KSh 776.7 million (\$9.96 million) in the seven pilot districts (Table 6.1).⁴⁹ Of this, KSh 383.3 million (\$4.91 million) was disbursed to households, while the remaining KSh 393.4 million (\$5.04 million) was spent on other costs. **This means that 49 per cent of known project expenditure has reached the households in the form of the cash transfer.** Non-transfer costs therefore amount to 51 per cent of known expenditure.

The Programme's administrative costs are declining as a proportion of total expenditure each year. In 2006/07, they represented the full 100 per cent of costs, since no transfers were made during that year. By the end of 2007/08, they had declined to a cumulative total of 76 per cent of total expenditure, and by the end of 2008/09 this had reduced further to a cumulative total of 51 per cent of total expenditure.

6.4.2 Costs by activity

An important element of an analysis of cost-efficiency is to list the main activities carried out by a programme in approximately sequential order, and to identify their respective costs. These activities may be categorised in four ways:

1. **Set-up activities.** These can be expected to be one-off activities for a programme of a given size in a given geographical area. They happen at the beginning of the programme. They include programme design and training of professionals. These activities may also occur at a later stage as a consequence of staff turnover, or if there is a change to the programme design. The costs are not necessarily directly related to the number of proposed beneficiaries in the programme.
2. **Roll-out activities.** With these activities, the programme reaches its beneficiaries. They include targeting and enrolment of beneficiaries. These costs are more closely related to the number of beneficiaries in the programme, because each beneficiary's application requires the completion and submission of forms that pass through the administrative system. Other factors affecting the cost are the number and geographical spread of applicants, the degree of complexity of the targeting criteria and the nature of any communication campaign.
3. **Operational activities.** Once the beneficiaries are identified and enrolled, the programme starts its day-to-day implementation activities. These include the disbursement of the transfer to households, the maintenance of administrative records and the monitoring of compliance with conditions. These are not one-off costs: they continue to be incurred throughout the life of the programme.
4. **External monitoring and evaluation.** External evaluation costs are incurred in the early years of programme operation to feed into refinements to the programme design. It is expected that these costs will not continue at a high level once the programme has stabilised.

An estimated breakdown of the CT-OVC Programme costs by activity is shown in Table 6.1.

⁴⁹ At rate \$1 = KSh 78.

Table 6.1 Total expenditure on seven districts by activity, 2006/07–2008/09 (Ksh and %)

| | Ksh | | | | Distribution of non-transfer costs (%) | | | |
|---|--------------------|--------------------|--------------------|--------------------|--|------------|------------|------------|
| | 2006/07 | 2007/08 | 2008/09 | Total | 2006/07 | 2007/08 | 2008/09 | Total |
| TRANSFER | | | | | | | | |
| Payment to households | 0 | 93,372,000 | 289,891,500 | 383,263,500 | | | | |
| OTHER ACTIVITIES | 143,929,759 | 151,883,155 | 97,600,704 | 393,413,619 | | | | |
| Programme set-up | 61,199,872 | 54,043,934 | 1,945,216 | 117,189,022 | | | | |
| Design | 22,767,857 | 52,350,798 | 0 | 75,118,655 | 16 | 34 | 0 | 19 |
| Training | 38,432,015 | 1,693,136 | 1,945,216 | 42,070,367 | 27 | 1 | 2 | 11 |
| Roll-out | 43,974,403 | 34,695,416 | 0 | 78,669,818 | | | | |
| Targeting | 31,219,540 | 15,436,604 | 0 | 46,656,143 | 22 | 10 | 0 | 12 |
| Enrolment | 12,754,863 | 19,258,812 | 0 | 32,013,675 | 9 | 13 | 0 | 8 |
| Operational costs | 28,267,137 | 37,659,663 | 87,681,002 | 153,607,802 | | | | |
| Unspecified implementation activities ¹ | | | | | | | | |
| Government salaries | 7,762,920 | 11,445,510 | 11,445,510 | 30,653,940 | 5 | 8 | 12 | 8 |
| HQ and donor non-salary expenditure | 8,585,182 | 11,712,937 | 41,901,012 | 62,199,131 | 6 | 8 | 43 | 16 |
| PCO-/DCO-level non-salary expenditure | 159,035 | 2,442,716 | 10,215,594 | 12,817,346 | 0 | 2 | 10 | 3 |
| UNICEF management fee on transferred DFID funds | 11,760,000 | 9,819,835 | 17,762,220 | 39,342,055 | 8 | 6 | 18 | 10 |
| Post office commission | 0 | 2,238,665 | 6,037,590 | 8,276,255 | 0 | 1 | 6 | 2 |
| Monitoring compliance with conditions ² | 0 | 0 | 319,076 | 319,076 | 0 | 0 | 0 | 0 |
| Monitoring and evaluation | | | | | | | | |
| External monitoring and evaluation | 10,488,348 | 25,484,142 | 7,974,486 | 43,946,976 | 7 | 17 | 8 | 11 |
| TOTAL (Ksh) | 143,929,759 | 245,255,155 | 387,492,204 | 776,677,119 | 100 | 100 | 100 | 100 |
| Payment to households as % of total expenditure (single financial year) | 0 | 38 | 75 | | | | | |
| Payment to households as % of total expenditure (cumulative) | 0 | 24 | 49 | | | | | |
| Cost-transfer ratio (single financial year) | n/a | 1.63 | 0.34 | | | | | |
| Cost-transfer ratio (cumulative) | n/a | 3.17 | 1.03 | | | | | |

Source: OPM, calculated from revenue budget and A-in-A expenditure, and personal communication with development partners.

Kenya CT-OVC Programme – Operational and Impact Evaluation: 2007-2009

Notes: (1) Government salaries are all ascribed to general operational costs, since there is no information on time used by government staff. However, some of this time will have been spent on set-up and roll-out activities such as targeting and enrolment. This may therefore overstate the ongoing operational costs. Activities by headquarters and donors include general Programme management and workshops. Activities by districts include awareness-raising, case management and general supervision. (2) In the first two years, there were no conditions on the transfer. Conditions with penalties began to be formally imposed in Kwale, Kisumu, Homa Bay and one sub-location of Nairobi in 2008/09. The proportion of the budget spent on these activities appears quite low, since records only cover the activities that were explicitly stated in expenditure reports as being for the purpose of monitoring compliance with conditions. It is possible that, for instance, some of the unspecified district-level operating costs may also have been spent on compliance monitoring.

About 50 per cent of all costs, excluding the transfers to households, have been spent on the start-up and roll-out activities. These costs were incurred in both 2006/07 and 2007/08, because the Programme was rolled out in two stages. Costs attributed to 'design' are the directly assignable costs of the contracts with the Programme design firm. Costs attributed to 'training', 'targeting' and 'enrolment' are derived from estimates of each activity's share of recurrent expenditure (travel expenses, living allowances, fuel, stationery, data entry operators) and assets (principally, furniture and computer equipment). The budgets for targeting and for enrolment activities were approximately equal, so this division has been maintained in the estimate of expenditure; targeting costs in 2006/07 are higher, because they include a share of the cost of overseas visits made by ministry staff to understand the targeting mechanisms used in similar programmes worldwide.

As the Programme matures, once all targeted households have been enrolled, these costs can be expected to decline as a share of the total costs: they do not increase with each payment that the household receives. In 2008/09, the start-up and roll-out costs fell to almost zero as the Programme stopped enrolling new households in the seven districts.⁵⁰ A particular feature of the current Programme design is that, once targeting and enrolment is completed in a location, it is not possible to 'top up' the number of beneficiaries with new households when existing households graduate from the scheme (for example, if they move away or the child reaches the age of 18). Instead, the total number of beneficiary households simply declines. As a result, there are no ongoing costs associated with these activities until the Programme expands.

Ongoing operational activities have consumed about 39 per cent of administrative expenditure so far. As would be expected, this expenditure has increased each financial year as the Programme gets under way. Some of these costs (such as the commission to the PCK and the management fee levied by UNICEF) are directly related to the amount disbursed, so the more transfers that reach the households, the higher the total cost.⁵¹ Other costs include recurrent expenditure and purchase of assets attributed to implementation activities, including the purchase of vehicles for the headquarters and districts, four of which are included in this analysis. The implementation costs listed here also include the estimated share of government salaries devoted to the Programme: it is likely that some of these costs will have been incurred on targeting and enrolment activities, but the time spent on the different tasks is unknown. Monitoring compliance with conditions only began to operate in some districts in 2008/09, so there is not yet much expenditure recorded on this: only 0.3 per cent of expenditure in 2008/09 was explicitly reported as being used to monitor conditions. It is possible that the district children's officer and their local team are carrying out some monitoring of conditions in the course of their general supervision activities.

The marginal cost of increasing the value of the transfer to the existing households is not large. Out of all the running costs, only the commission to the PCK and the management fee to UNICEF increase in direct proportion to the amount disbursed per household. The total cost of supervising enrolled households and monitoring compliance with conditions should also increase with the number of households and the length of time they are enrolled, although this is not necessarily in a direct linear relationship.

Finally, some 11 per cent of administrative expenditure has been devoted to external monitoring and evaluation, including this study. Until now, these costs have been incurred every year but it can be expected that, in the long run, external evaluation will become a less prominent feature of the Programme and will consume a declining share of total costs.

⁵⁰ However, 2008/09 will see substantial expenditure on these activities for Phase 3 of the Programme, the World Bank-funded expansion, details of which are excluded here.

⁵¹ UNICEF charges a 7 per cent fee on the DFID funds that it transfers on behalf of the Programme to facilitate the payments, since the Government of Kenya's financial systems are not currently able to meet stipulated requirements. The Government of Kenya and its partners are now looking into alternative solutions.

Table 6.2 Total expenditure on seven districts by budget classification, 2006/07–2008/09 (Ksh)

| Item ¹ | Budget line ² | Budget code | 2006/07 | 2007/08 | 2008/09 | Total | Incl. payment | Excl. payment |
|---|--|------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|
| Transfer | | | | | | | | |
| Payment to households | Other current transfers, grants and subsidies | 2640400 | 0 | 93,372,000 | 289,891,500 | 383,263,500 | 49 | |
| Other items | | | | | | | | |
| Government salaries | – | – | 7,762,920 | 11,445,510 | 11,445,510 | 30,653,940 | 4 | 8 |
| Data entry operators | Basic wages – temporary employees | 2110200 | 736,200 | 499,800 | 342,000 | 1,578,000 | 0 | 0 |
| Communications | Communication, supplies and services | 2210200 | 525,621 | 0 | 1,029,541 | 1,555,162 | 0 | 0 |
| Travel | Domestic travel/international travel | 2210300, 2210400 | 75,682,929 | 6,804,067 | 2,952,085 | 95,439,081 | 12 | 24 |
| Training | Training expenses | 2210700 | 0 | 2,592,660 | 2,398,624 | 4,991,284 | 1 | 1 |
| Workshops | Boards, committees, conferences and seminars | 2210800 | 3,326,773 | 1,292,009 | 112,440 | 4,731,222 | 1 | 1 |
| Stationery | Office and general supplies and services | 2211100 | 1,380,507 | 8,292,645 | 1,355,780 | 11,028,932 | 1 | 3 |
| Fuel | Fuel oil and lubricants | 2211200 | 785,458 | 2,137,824 | 1,471,566 | 4,394,848 | 1 | 1 |
| PCK commission/bank charges | Bank service commission and charges, PCK transaction costs and so on | 2211301 | 8,634 | 2,238,665 | 6,037,590 | 8,284,889 | 1 | 2 |
| UNICEF management fee on transferred DFID funds | Management fees (7% UNICEF charge) | 2211309 | 11,760,000 | 9,819,835 | 17,762,220 | 39,342,055 | 5 | 10 |
| Consultancy services | Other operating expenses | 2211310 | 33,256,205 | 81,590,700 | 37,838,129 | 152,685,034 | 20 | 39 |
| Vehicles | Purchase of vehicles and other transport equipments | 3110700 | 0 | 0 | 8,438,276 | 8,438,276 | 1 | 2 |
| Office furniture/computer equipment | Purchase of office furniture and general equipment | 3111000 | 8,704,513 | 15,169,440 | 6,416,944 | 30,290,897 | 4 | 8 |
| Total (Ksh) | | | 143,929,759 | 245,255,155 | 387,492,204 | 776,677,119 | 100 | |
| Total excluding payment to households | | | 143,929,759 | 151,883,155 | 97,600,704 | 393,413,619 | | 100 |

Source: OPM, calculated from revenue budget and A-in-A expenditure, and personal communication with development partners.

Notes: (1) 'Communications' = telephone, postage; 'Travel' = travel, field allowance, subsistence allowance; 'Training' = training materials, accommodation, trainers' fees; 'Stationery' includes office supplies and computer supplies. (2) These are the budget lines listed in the government's chart of accounts. (3) All figures are indicative, because administrative records do not attribute costs to specific budget lines, with the exception of revenue expenditure.

6.4.3 Costs by item

Table 6.2 breaks down expenditure on the Programme according to the budget lines of the government's chart of accounts. This shows that, naturally, the transfers to households form the largest single item of expenditure in the Programme, at 49 per cent of total spending. The next major item, as might be expected in the early years of the Programme, is the cost of consultancy for design, monitoring and evaluation of the Programme. Travel, too, has formed a large component of spending, as teams have been mobilised across the country to set up and operate the Programme across its seven districts.

6.4.4 Costs by location

Table 6.3 shows that some 77 per cent of non-transfer costs have been spent at headquarters level by the DCS in Nairobi. This is largely because costs such as consultancy fees, the set-up of the management information system, and travel costs by ministry staff are not specific to a province or district, and are therefore ascribed to the headquarters.

Table 6.2 Non-transfer costs by location, 2006/07 to 2008/09

| Location | 2006/07 | | 2007/08 | | 2008/09 | | Total | |
|-----------------------------|-------------|------------|-------------|------------|------------|------------|-------------|------------|
| | Ksh | % | Ksh | % | Ksh | % | Ksh | % |
| HQ | 114,292,015 | 84 | 116,864,737 | 83 | 48,481,130 | 56 | 279,637,882 | 77 |
| Provinces | | | | | | | | |
| Coast | 0 | 0 | 149,682 | 0 | 172,170 | 0 | 321,852 | 0 |
| N. East | 0 | 0 | 149,960 | 0 | 377,058 | 0 | 527,018 | 0 |
| Nairobi | 14,150 | 0 | 100,000 | 0 | 96,875 | 0 | 211,025 | 0 |
| Nyanza | 144,885 | 0 | 300,000 | 0 | 354,600 | 0 | 799,485 | 0 |
| Districts | | | | | | | | |
| Nairobi | 726,931 | 1 | 820,935 | 1 | 1,494,895 | 2 | 3,042,761 | 1 |
| Kwale | 571,602 | 0 | 884,298 | 1 | 1,008,909 | 1 | 2,464,809 | 1 |
| Garissa | 1,716,280 | 1 | 541,420 | 0 | 839,624 | 1 | 3,097,324 | 1 |
| Kisumu | 654,342 | 0 | 1,576,520 | 1 | 3,484,529 | 4 | 5,715,391 | 2 |
| Homabay | 1,051,319 | 1 | 1,366,435 | 1 | 3,750,400 | 4 | 6,168,154 | 2 |
| Migori | 1,126,306 | 1 | 2,029,019 | 1 | 2,084,285 | 2 | 5,239,610 | 1 |
| Suba | 782,237 | 1 | 787,035 | 1 | 3,065,259 | 4 | 4,634,531 | 1 |
| Development partners | 15,086,773 | 11 | 14,867,604 | 11 | 20,945,460 | 24 | 50,899,837 | 14 |
| Total (Ksh) | | 100 | | 100 | | 100 | | 100 |
| Share of total (%) | | | | | | | | |
| HQ | | 84 | | 83 | | 56 | | 77 |
| Provinces | | 0 | | 0 | | 1 | | 1 |
| Districts | | 5 | | 6 | | 18 | | 8 |
| Development partners | | 11 | | 11 | | 24 | | 14 |

Source: OPM, calculated from revenue budget and A-in-A expenditure, and personal communication with development partners.

The share of expenditure that is incurred by the headquarters declined in 2008/09, as costs such as Programme design ceased. As the Programme stabilises, the share of spending shifts towards day-to-day implementation activities in Programme districts, and so the share

of spending by districts increases. In 2008/09, districts accounted for about 18 per cent of Programme expenditure.

The seven districts vary widely in the number of beneficiaries they serve, and therefore in the total amount of transfer payments to households (Table 6.3). The total number of transfers covered ranges from fewer than 5,600 in Garissa to more than 35,700 in Migori.

Table 6.3 Transfers to households by location, 2007/08 and 2008/09

| Districts | 2007/08 | | | 2008/09 | | | Total | | |
|--------------|------------------|-------------------|------------|------------------|--------------------|------------|------------------|--------------------|------------|
| | No. of transfers | Total payment | | No. of transfers | Total payment | | No. of transfers | Total payment | |
| | | Ksh | % | | Ksh | % | | Ksh | % |
| Nairobi | 4,138 | 12,546,000 | 13 | 10,547 | 33,019,000 | 11 | 14,685 | 45,565,000 | 12 |
| Kwale | 4,290 | 13,098,000 | 14 | 7,830 | 23,536,000 | 8 | 12,120 | 36,634,000 | 10 |
| Garissa | 1,847 | 5,697,000 | 6 | 3,752 | 13,087,000 | 5 | 5,599 | 18,784,000 | 5 |
| Kisumu | 5,926 | 17,982,000 | 19 | 14,677 | 44,068,500 | 15 | 20,603 | 62,050,500 | 16 |
| Homabay | 5,538 | 16,728,000 | 18 | 18,253 | 55,110,000 | 19 | 23,791 | 71,838,000 | 19 |
| Migori | 8,879 | 16,608,000 | 18 | 26,846 | 90,945,000 | 31 | 35,725 | 107,553,000 | 28 |
| Suba | 3,513 | 10,713,000 | 11 | 9,995 | 30,126,000 | 10 | 13,508 | 40,839,000 | 11 |
| Total | 34,131 | 93,372,000 | 100 | 91,900 | 289,891,500 | 100 | 126,031 | 383,263,500 | 100 |

Source: MGCSD.

6.4.5 Cost per transfer

During the three years in which the Ksh 776.7 million were spent on the Programme, some 126,031 payments were made to households (Table 6.4). **The total expenditure per transaction is therefore Ksh 6,163** (equivalent to around \$79). This consists of an average payment of Ksh 3,041 to the household and Ksh 3,122 in other costs. The average payment to households is slightly higher than the standard Ksh 3,000 payment because households in Garissa receive an additional Ksh 1,000 per payment cycle to cover the additional transport costs in this sparsely populated district.

Table 6.4 Unit cost of expenditure

| Item | Value |
|---|-------------|
| Total number of transactions | 126,031 |
| Total expenditure (Ksh) | 776,677,119 |
| Total expenditure per transaction (Ksh) | 6,163 |
| <i>Payment</i> | 3,041 |
| <i>Other costs</i> | 3,122 |

Source: OPM, calculated from revenue budget and A-in-A expenditure, and personal communication with development partners.

A standard measure of the cost-efficiency of a programme is the cost of making a one-unit transfer to a beneficiary (i.e. the ratio of non-transfer costs to transfers). This is termed the 'cost-transfer ratio' (Caldés *et al.*, 2004). Converting the unit costs in Table 6.5 into this measure reveals that it has cost Ksh 103 to deliver each Ksh 100 to the household. The cost-transfer ratio is therefore 1.03 (see also Table 6.1). This cumulative ratio of 1.03 over the full three-year period is already a considerable decrease on the cumulative ratio of 3.17

for the first two years of the pilot Programme (Table 6.1). This highlights the existence of fixed costs at an early stage of the Programme. Some fixed costs (such as for consultancy activities) are still included in 2008/09, which suggests that, in the long run, the cost–transfer ratio is likely to decline still further.

Intuitively, the fact that administrative costs over the first three years are about the same as the value of the transfers may, at first, sound high. However, Caldes *et al.* observe in relation to the *Progres*a programme in Mexico that:

because of the sharp decline in annual CTRs [cost–transfer ratios], basing the average CTR on only the first two or three years of data substantially overestimates the average ... when all beneficiary households had been included and the program was nearing maturity (2004, p. 16).

The Programme is, at this stage, where the share of fixed costs in total expenditure has not yet reached its long-run average. It should be recalled that the Programme took two full financial years to reach its target of over 15,000 households. The single financial year 2008/09 is therefore the only year that can give an indication of likely long-term running costs when the Programme has stabilised. The cost–transfer ratio for the single financial year 2008/09 – rather than the cumulative total – is 0.34, which may give a better indication of long-run costs.

Caldés *et al.* (2004) caution that it is misleading to use an unadjusted cost–transfer ratio such as the one presented here to determine the relative cost-efficiency of this Programme compared with the ratios of other Programmes, which may take into account different design features and may treat differently aspects such as whether the Programme is expanding, its coverage and duration. Some examples of the ratios of other conditional cash transfer programmes are provided in Box 6.1, but the assumptions on which these are calculated are not directly comparable.

Box 6.1 How do the Programme costs compare with other conditional cash transfer programmes worldwide?

The costs of administering a conditional cash transfer programme vary enormously. Caldés *et al.* (2004) and Samson *et al.* (2006), in a review of administration costs for different programmes, observe that the large *Oportunidades* programme in Mexico is reported to be one of the most efficient, with a cost–transfer ratio of only 0.106. It is noted that, 'smaller programs in lower income countries are much more expensive': the *Programa de Asignación Familiar – Fase II* (PRAF) programme in Honduras spends about \$50 on administration for every \$100 of benefit received by the household (Samson *et al.*, 2006, p. 98). However, the PRAF programme includes considerable supply-side interventions, making grants to local health care committees and school parents' associations to be spent on educational and health facilities; this increases the size of the cost–transfer ratio. Its costs were also analysed when the programme was at a different stage of maturity compared with the Mexican programme, and may not reflect the long-run cost–transfer ratio of the programme. Kenya's CT-OVC programme costs to date, with a ratio of 1.03, are greater than those described, but they include two years' of set-up and roll-out costs. The cost–transfer ratio for the stabilised programme in 2008/09, at 0.34, falls within the range of the Mexican and Honduran programmes although, as noted in the text, direct comparisons cannot be made, especially since the Programme does not include a supply-side component.

Samson *et al.* (2006) note that targeting households and enforcing compliance with conditions often consumes a large proportion of the administrative budget. In the case of the Programme, the costs of monitoring compliance with conditions are reported to be relatively small. This may be because they have not been fully identified in the records, and also because the conditions have only recently begun to be monitored. The new management information system that is being introduced by the Government of Kenya and development partners for Phase 3 of the Programme may be able to capture information on these activities more effectively than at present.

6.5 Cost of Programme expansion

An average cost per transfer of Ksh 6,163 (\$79) might imply an annual cost per household supported of around Ksh 36,978 (\$474), if each household were to receive six transfers per year and if the cost of providing the transfer were to remain unchanged. However, the analysis has shown that the cost of administering the transfer is likely to decline as a proportion of the transfer, as the fixed start-up costs are spread across more households and more transfers. The cost–transfer ratio for 2008/09, at 0.34, is about one third of the cumulative ratio for the project of 1.03. In that year the Programme made 91,900 payments and spent Ksh 97.6 million on administration costs. Continued spending at that level would bring down the average annual Programme cost considerably. It would reflect not only the cost-efficiency gains from continuing to pay transfers to households for which the one-off expenses of targeting and enrolment have already been paid, but also economies of scale as the Programme expands.

The annual cost of expanding the Programme to various groups using a hypothetical annual cost of \$474 per household is shown in Table 6.5, based on 2.56 OVCs per household. Coverage of all of the poorest 25 per cent of OVCs implies a total cost of around Ksh 8.7 billion per annum. This represents a small share of total gross domestic product (GDP),

around 0.3 per cent, or, alternatively, about 1 per cent of government expenditure.⁵² This is substantially below what is spent on successful social protection Programmes in some other (middle-income) developing countries, although it represents only one element of the overall social protection system in Kenya. It would be useful for the costs of all programmes to be assessed together, within the framework of the social protection policy as a whole. It should also be noted that increasing the value of the transfer, for example through indexing it to the number of OVCs or inflation, would increase these costs.

Table 6.5 Hypothetical annual cost of an expanded Programme at \$474 per household per year

| Group | No. of OVCs ¹ | No. of households ² | Cost, Million Ksh | Cost, Million \$ | % of GDP |
|----------------------|--------------------------|--------------------------------|-------------------|------------------|----------|
| All OVCs | 2,400,000 | 937,500 | 34,665 | 444 | 1.29 |
| Poorest 25% of OVCs | 600,000 | 234,375 | 8,666 | 111 | 0.32 |
| Half of poorest OVCs | 300,000 | 117,188 | 4,333 | 56 | 0.16 |

Notes: (1) Source is World Bank PAD 2009. (2) Based on an average of 2.56 OVCs per OVC household.

The opening of this section of the report cautioned that these figures are an approximate guide and cannot be taken as a calculation of the actual cost of scaling up the Programme. Three reminders can be given in this regard.

- First, the Programme is too young to have reached its long-run average costs. This is inevitable with a scheme of this size and scope. The first two years of Phase 2 of the Programme, out of the three years of costs analysed here, consisted entirely of start-up activities plus a small number of payments (no more than six per household, and often fewer) to less than 5,000 households. It was not until June 2008 that the first payments were made to over 10,000 newly enrolled households, who now make up two thirds of the households in the Programme. One would expect the average cost of making a transfer to these households to decline over time. This implies that the annual costs shown here are an overestimate of the long-run average.
- Second, and perhaps counterbalancing some of the effect of overestimation described, some costs have not been able to be included in this study owing to lack of data. This includes the costs of the government's material and financial contribution to the Programme in the seven districts.
- Third, the costs of implementing a conditional cash transfer Programme are lumpy, as the scheme requires heavy financial investment at the start to train staff in new locations, and to identify and enrol new households. Each phase of scaling-up therefore results in a jump in the administrative costs relative to the cost of the transfer.

The Programme may not reach its expected long-run average costs for several years, because it is repeatedly being adjusted. The administrative costs under Phase 3 of the Programme will take some years to be offset by the payments to new households, just as the costs under Phase 2 have done.

⁵² Calculation is based on a GDP estimate of Ksh 2,692 billion (World Bank estimate for 2008) and estimated government expenditure of Ksh 772 billion (Ministry of Finance estimate for 2009/10).

6.6 Recommendations for future costing work

It would be valuable to undertake a second costing study once the Programme has completed expansion under the third phase. A number of improvements can be made to the accounts so that that study can be more accurate and undertaken more easily. Spending units should be required to attribute their expenditure to both activities and budget lines. For example, DCOs could report their expenditure against activities such as 'targeting', 'enrolment', 'case management' or 'monitoring conditions', in addition to the standard budget codes. Expenditure records could also identify the phase, in case there is later a fourth phase of expansion; and central costs could be divided by the level of government for which they are intended (district/province and so on): this will eliminate the need for retrospective estimation of where money has been spent. The World Bank has already begun preparing for this exercise with a costing module in its proposed management information system.

6.7 Conclusions

In the three financial years from July 2006 to June 2009 the Programme spent some Ksh 776.7 million (\$9.96 million) in the seven pilot districts, according to information provided. The number of recipients increased over this period to around 15,000 households. Some 49 per cent of known project expenditure has reached the households in the form of the cash transfer. The proportion has increased over the period analysed, and it is likely that it will rise further in the medium term in relation to the seven districts being evaluated.

Some 77 per cent of non-transfer costs have been spent by the DCS in Nairobi, in part because consultancy fees are registered there. The share of spending at district level has increased over the period. Government financial systems should be strengthened so that there is no need for DFID grants to be paid through UNICEF, thereby freeing up the management fee for other uses. The costs of start-up and roll-out have been concentrated in the earlier years of the Programme. The identifiable costs of monitoring compliance with conditions appear to be very small to date.

7 Conclusions and recommendations

7.1 Conclusions

The evaluation identified a set of key questions when it began, with quite an ambitious scope. They were the following:

- How much of an impact are cash transfers having? Are cash transfers reaching the most vulnerable children and having a substantial impact on their welfare, both in terms of human development for the child and wider social benefit for the household?
- Does the impact justify the cost of the Programme? Would a national Programme be affordable and fiscally sustainable? On that basis, should the Programme, or a variant of it, be scaled up to a national level?
- If the Programme is to be scaled up, which aspects of its operation must be modified or strengthened for it to operate effectively at a national level? Which aspects of good practice should remain the same and be replicated?
- What is the impact or incentive effect of imposing conditions with penalties on recipients? What is the cost of doing so, for both households and the government? Does any additional impact warrant the additional cost? If households fail to comply with conditions, why is this so?

These questions cover many of the areas identified in the OECD-DAC evaluation criteria of: relevance, effectiveness, impact, efficiency and sustainability. Before considering impact and costs, it is useful to outline the operational effectiveness of the Programme, that is, the extent to which it is delivering the services it is supposed to, as identified in the third question.

Operational effectiveness

Overall, the evaluation identified many positive aspects of the Programme's operations. The Ministry has managed to establish a functioning system delivering regular payments to households containing OVCs. This is a considerable achievement. There are, nevertheless, areas of operations that should be improved.

Recipients and the value of the transfer

The survey showed that **recipients of the transfer** are generally female heads of the household, and are active in the decisions about how it is used. The value of the transfer is significant in relation to household consumption levels, at around 22 per cent of average beneficiary consumption per adult equivalent at baseline. However, its benefit is lower for households where there are many members, which would be expected to limit its impact for larger households. The impact on consumption expenditure and enrolment for secondary education are significant only in smaller households. Inflation has also eroded the real value of the transfer substantially over the preceding two years. The Programme should consider indexing the value of the transfer, both to household size and for price inflation, although the cost implications should be assessed.

Targeting and the selection of beneficiaries

The analysis of **targeting** here is updated to include households enrolled after the baseline survey. It shows that the Programme was successful in enrolling its target population, with very low leakage to households ineligible under Programme criteria. The targeting process

was moderately pro-poor overall, although somewhat less so than many comparable Programmes elsewhere. It is pro-poor because OVC households are somewhat more likely to be poor than the population as a whole, and because the Programme's targeting within the OVC population is mildly pro-poor.

However, a poor OVC household has only a modestly higher chance of being included in the Programme than an 'average' OVC household. The result is that many of the poorest OVC households in Programme areas are not supported by it, while a significant number of better-off households receive support. This is a serious equity concern which should be addressed. While no targeting is perfect, the Programme's implementation of proxy-based targeting provides a good basis for improvement. Targeting can be improved considerably by taking a number of measures that need not prove overly costly or complicated. It is encouraging that the Programme has already begun to address some of these issues.

The Programme should also begin developing systems to update beneficiary enrolment in areas where the initial targeting has been completed, to provide protection to newly vulnerable households. It is recognised that there is a trade-off between targeting new geographical areas and using resources to enrol new households in areas that already have the Programme. Nevertheless, a mature social protection Programme must have a system for keeping enrolment up-to-date.

The Programme is intended for orphans and other vulnerable children, with a definition of 'vulnerable' based around chronic illness. Most, although not all, recipient households contain orphans. This has the effect of tilting Programme support towards households with somewhat older children than average, since orphanhood is more common in older children. However, the very youngest children are the most vulnerable to some of the key negative outcomes that the Programme aims to prevent (especially mortality). It is clear that not all orphans live in poor households, and that there are many poor and vulnerable children who live in households that do not contain OVCs in the current sense.

The Programme has created what appears to be an effective mechanism for delivering cash to selected recipients. It might consider, over the medium term, extending support to a much wider group of 'vulnerable' children, within the context of Kenya's overall social protection framework. This would require a clearly defined and operationalised definition of 'vulnerable', but might provide a good opportunity to promote the broader social goal of protecting all children at risk of the most damaging outcomes.

General operations

In terms of general operations, the Programme is effectively delivering regular cash payments to recipients. The payment system is working well. In areas without penalties, almost all recipients report that they always receive the full amount. In areas with conditions with penalties, a significant proportion has (ever) received less than the full amount, which might be assumed to represent a penalty by the Programme for non-compliance. Very few recipients report making unofficial payments, either at the post office or to individuals in the community.

However, understanding about Programme conditions, payment rules and management processes is patchy amongst recipients, and sometimes the community volunteers who form the bottom rung of the Programme's operations. The knowledge and understanding of recipients about the penalties imposed to enforce conditions, where they operate, is also limited. Recipients who have had a deduction made often do not know why. This leaves the system open to abuse. Programme communications and case management needs to be

strengthened, probably by incorporating the community volunteers more effectively into the system with terms of reference, training and payments.

The monitoring process for enforcing conditions suffers from weaknesses at present. It seems that staff are often reluctant to report non-compliance that will lead to a penalty. There is particularly little enthusiasm for the monitoring process in health centres, and the fact that households may use different health facilities imposes practical challenges in monitoring the use of services. Health staff, Programme staff and recipients are unconvinced of the benefits of regular clinic attendance for growth monitoring. If monitoring is to be continued, it needs to be made more effective.

In Garissa, the remoteness of the post office imposes high time and money costs collecting the money, which is only partly covered by the extra payment that is made there. The Programme should learn from the experience of Garissa as it expands into other thinly populated districts or more remote sub-locations.

Impact

The impact of the Programme to date has been mixed, with a number of areas showing substantial positive impact, while others do not. The performance of the Programme against each of its specific objectives to date was as follows:

Increase school enrolment, attendance and retention for children aged six to 17 years in basic school (up to standard 8).

The evaluation did not find evidence of increased enrolment or school attendance in basic school for this age group as whole. There does not appear to be a positive impact on attendance, which was already high, or on class repetition. The Programme appears to have significantly increased enrolment in secondary school, however – perhaps surprisingly, since it is not a specific objective. The reasons for the lack of impact in basic schooling and strategies to address this will need to be identified.

Reduce the rates of mortality and morbidity among children aged 5 years and under, through immunizations, growth control and vitamin A supplements.

The evaluation did not attempt to measure impact on mortality, any change in which would probably be small against possible measurement error. However, it looked at some of the determinants that the Programme hopes to improve.

Overall, there is no evidence that the Programme has had an impact on measures of the health and nutritional status of children. Vitamin A supplementation has increased significantly in Programme areas, although impact estimates are not significant. A number of the other health estimates are in the right direction, but are also not statistically significant. The models find evidence of an impact on reducing the frequency of illnesses and of an increase in consulting an appropriate source of care when there is sickness in poorer households, however, which is encouraging.

Puzzlingly, immunisation coverage declined in all areas, and significantly in Programme areas. There is no evidence of an impact on the uptake of growth monitoring, despite being a Programme stipulation. The Programme has not had an impact on the nutritional status of children, although the results need to be treated with some care.

The analysis of health indicators was based on relatively small samples, and some of the indicators will reflect complex and multiple influences. Others would be expected to be more quickly responsive to the Programme, however, particularly the uptake of preventive

services. They remain an appropriate objective for the Programme, which should seek to address the limited uptake of key services.

Promote household nutrition and food security by providing regular and predictable income support.

The Programme has substantially increased real household consumption, and has reduced poverty levels by some 13 percentage points. It has also increased food expenditure and dietary diversity, significantly increasing the frequency of consumption of five food groups – meat, fish, milk, sugar and fats. The extra income has also translated into increased household ownership of a number of assets, although it has not increased livestock holdings. Beneficiary households are more likely than controls to hold savings.

As previously stated, there is currently no evidence of an impact on child nutritional status, however. It is possible that this will be seen in time, given the improvements in household dietary diversity, or it might require other interventions, such as dietary education and more effective growth monitoring.

The Programme has also reduced the proportion of younger children reported to be doing paid work, and the amount of time spent by children on unpaid work. The latter benefits boys and girls, and households which were poorer at baseline, although the findings vary somewhat between models.

Encourage caregivers to obtain identity cards and to obtain birth certificates and (identity cards) for children⁵³

The Programme has substantially increased the proportion of children with a birth certificate or registration form. Surprisingly, it does not appear to have increased the ownership of identity cards by carers.

With other ministries and partners, coordinate training on topics such as nutrition and health; and provide guidance and refer cases related to HIV/AIDS, both to adults and children who are members of the households.

These activities appear to have received relatively little attention by the Programme to date. The qualitative research found that little had been done to develop complementary activities for recipient households. Very few of them identified attendance at education/awareness sessions as an obligation for recipients.

Overall objective: to provide a social protection system through regular cash transfers to families living with OVCs in order to encourage fostering and retention of OVCs within their families and communities, and to promote their human capital development.

The Programme is succeeding in providing regular cash transfers, with a payment system that works well. The vast majority of recipients are households with OVCs, although these households are not always the poorest. Fostering and retention within families and communities was already well-grounded in existing social norms, and the Programme has not increased it. However, it has substantially raised living standards for recipient households, and so made it easier for them to care for OVCs. This suggests the Programme should reconsider its objectives to be in supporting existing processes and helping ensure the welfare and development of OVCs, rather than expecting to have much impact on the extent to which fostering takes place.

⁵³ Death certificates for deceased parents are also identified in the 2008 OPM Operations Manual

These improvements in living standards have not translated as much as would be hoped into demonstrable improvements in human capital indicators. There has been a positive impact on enrolment in secondary school, and some health indicators change in the right direction but are not significant. Nevertheless, the intended improvements in enrolment in basic school and in the utilisation of health care services are not as yet apparent, and the Programme should seek to understand and address whatever is constraining them.

The evaluation was not able to make a rigorous assessment of the impact of imposing conditions – or, more specifically, of imposing penalty deductions for non-compliance with conditions. The analysis that was done did not show an impact of these measures, but this cannot be considered a conclusive test of their potential.

Cost

In the three financial years from July 2006 to June 2009, the Programme spent some Ksh 776.7 million (\$9.96 million) in the seven pilot districts, according to information provided. The number of recipients increased over this period to around 15,000 households. Some 49 per cent of known Programme expenditure has reached the households in the form of the cash transfer over the period analysed. This is lower than some larger, efficient programmes, but represents only the initial start-up phase of the Programme. The proportion has increased over the period analysed, and it is likely that it will rise further in the medium term.

Around 77 per cent of non-transfer costs have been spent by the DCS in Nairobi – in part, because consultancy fees are registered there. The share of spending at district level has increased over the period, as would be expected. About 50 per cent of all costs (excluding the transfer to households) have been spent on the start-up and roll-out activities, which were concentrated in the first two years of the Programme. The identifiable costs of monitoring compliance with conditions appear to be very small to date, although this may not be an accurate reflection of what the full costs might be.

The total expenditure per transaction is therefore Ksh 6,163 (equivalent to around \$79). It currently costs around Ksh 36,978 (\$474) per annum per household supported, including the transfer. Expanding the Programme to cover the poorest 25 per cent of OVCs in Kenya at this unit cost would imply a total Programme cost of around Ksh 8.7 billion per annum. This represents around 0.3 per cent of total GDP, or about 1 per cent of government expenditure. This suggests that it ought to be financially sustainable and, in practice, the unit cost may be lower, although some of the recommendations made in this report would, if followed, have the effect of increasing costs.

To date, the impact identified in return for this expenditure is not what was intended. However, the Programme is effectively delivering cash benefits that enhance the welfare of recipients, many of whom are poor children, and is responding to an important social problem. It can provide a valuable component for the development of the social protection system in Kenya. It is necessary to identify strategies and resources to increase the impact on human capital indicators. This is also an opportune moment to reconsider the basic design elements of the Programme and how it should fit into the overall social protection framework that is developing in Kenya. Further expansion of the Programme should be modest until these issues are addressed.

7.2 Principal recommendations

The principal recommendations from this evaluation for the Programme's consideration are as follows:

Operations and payments

- Strengthen the targeting process. In addition to improving the poverty indicators used (as has been done), an appropriate geographical allocation of recipients should be ensured. The process itself should also ensure the identification of all potential recipients, and support an effective community validation process in which the initial list can be challenged. The appeals process should be made operational.
- Over the medium term, develop permanent systems for allowing newly-orphaned and vulnerable children in Programme areas to be identified and admitted to the Programme after the initial registration has closed.
- Plan for the mitigation of costs faced in collecting the transfer by households living in remote areas before any further expansion, building on the lessons from Garissa.
- Strengthen the communication and case management processes so that beneficiaries are fully informed of their rights and obligations. Part of this should be to incorporate the community volunteers who deal with households more effectively into Programme processes through terms of reference, training and payments.
- Information about the days when payments become available at the post offices should be made available in a way that makes beneficiaries feel safe, possibly by word of mouth. Resources should be allocated to support this.
- Consider indexing the value of the transfer by household size and for inflation.
- Strengthen government financial systems so that DFID funds do not need to be paid through UNICEF, freeing up the management fee for other purposes.
- Investigate the factors that are limiting the uptake of basic schooling and health services, and develop strategies to address these issues.
- Strengthen the complementary activities in supplying households with information, education and communication in relevant areas, and additional services.
- If conditions and penalties remain part of the Programme, their operation needs to be strengthened; the practical and motivational problems of monitoring preventive attendance at health facilities need to be addressed.
- Ensure the next phase of monitoring and evaluation can provide information on the effectiveness of any revisions.

Programme design

- The Programme should consider whether it should, in the medium term, extend support to a much wider group of children classed as vulnerable, of which orphans would be only one sub-group. This should be considered within the context of Kenya's overall social protection framework and the protection for children that it intends.

Annex A Quantitative survey: Sampling strategy

A.1 Overview

The following population groups can be identified:

- **Group A** – Households with OVCs in the Programme areas selected for inclusion in the Programme. These are divided into two groups: those in areas with conditions with penalties; those in areas where there are no conditions with penalties.
- **Group B** – Households with OVCs in control areas that were expected to have the met Programme criteria and should therefore (in theory) have been selected by the Programme had the Programme operated there.
- **Group C** – Households with OVCs in Programme areas that were not selected for inclusion in the Programme.
- **Group D** – Households with OVCs in control areas that were expected not to have met Programme criteria and would not (in theory) have been selected had the Programme operated there.
- **Groups E and F** – Households without OVCs in both Programme and control areas.

The comparison of trends in groups A and B over time provides the basis for the analysis of Programme impact. The evaluation also compared impact measures in areas where conditions with penalties are imposed with those where they are not. The sample included units from groups C and D to provide information on the OVC population as a whole, in order to assess the extent to which the Programme had selected the poorest OVC households. Ideally, the sample would have included small samples of groups E and F to provide contextual information on the entire population in these areas and to assess the extent to which targeting OVC households meets wider objectives of targeting the poorest in the population as a whole. However, due to budget constraints it was decided that group E and F households would not be sampled.

The intended evaluation survey sample sizes are presented in Table A.1 below (with the letters in the cells matching groups A–F as listed). They were based on the expected sampling error for point estimates, differences and the difference-in-differences estimates for key indicators.

Table A.1 Intended sample size, by population group

| Population group | Selected to be a recipient/control household | Area | | Total |
|------------------|--|--------------|--------------|--------------|
| | | Programme | Control | |
| OVC household | Selected | 1,700 [A] | 873 [B] | 2,573 |
| OVC household | Not selected | 292 [C] | 296 [D] | 598 |
| Total | | 1,992 | 1,169 | 3,161 |

Notes: Originally the intended total sample size agreed with the Programme was 3,200, broken down as follows: A – 1,700; B – 900; C – 300; D – 300. However, after the Garissa recipient selection had been undertaken by the Programme it became apparent that the intended Garissa sample was too large. The Garissa sample was therefore reduced by 85, from 389 to 304. In addition, due to a modification to the distribution of recipients across evaluation locations, additional recipients were sampled and interviewed in Migori.

Inevitably, not all sampled households could be identified and/or interviewed. Some households could not be found, whilst others refused to be interviewed. Many of these households were replaced from a randomly selected replacement list in each location (group A) or enumeration areas (EAs) (groups B, C & D). However, having too many replacements risks biasing the sample; therefore, the size of the replacement list was limited. For recipient households (group A), a 10 per cent replacement sample was drawn by location and, for listed households, (groups B, C and D) a 25 per cent replacement sample was drawn.⁵⁴ Compounded by the fact that some replacement households themselves had to be replaced, the final sample sizes were therefore slightly lower than intended.

The actual number of households interviewed by population group and district in the baseline survey are presented in Table A.2. A total of 2,759 households were interviewed and included in the baseline sample for analysis, corresponding to 87 per cent of the intended sample. This sample included a total of 15,464 individuals, of whom 9,231 were children. The most frequent reason that households were not interviewed at baseline was that they were screened out as ineligible by filter questions asked before the interview began.

Table A.2 Actual sample size by population group and district: Number of households at baseline

| District | Recipients | Non-recipients | | | Total |
|--------------|--------------|----------------|------------|------------|--------------|
| | Group A | Group B | Group C | Group D | |
| Nairobi | 206 | 76 | 32 | 18 | 332 |
| Kwale | 126 | 69 | 22 | 19 | 236 |
| Garissa | 159 | 45 | 17 | 17 | 238 |
| Homa Bay | 180 | 95 | 32 | 35 | 342 |
| Kisumu | 280 | 171 | 44 | 53 | 548 |
| Migori | 351 | 177 | 54 | 49 | 631 |
| Suba | 238 | 121 | 37 | 36 | 432 |
| Total | 1,540 | 754 | 238 | 227 | 2,759 |

Note: In total, 2,834 households were interviewed (some 90 per cent of the intended numbers), but 66 sampled recipients were subsequently removed from the dataset after they were found to not to be recipient households, after cross-checking against the Programme's final list of recipient households. In other words, the sample frame from which the recipient sample was drawn was not the final recipient list.

The households were panelled. Survey teams revisited and interviewed the same households for the follow-up survey whenever they could be found. Some 2,255 of the baseline households were interviewed at follow-up, corresponding to 82 per cent of those interviewed at baseline (Table A.3). The proportion of households that could not be re-interviewed at follow-up was higher in control households. This attrition is higher than had been hoped and was, in part due to the post-election violence. The follow-up sample included 12,959 individuals, of whom 7,532 were children, although not all of these individuals were included in the baseline survey, as some may have joined the households after the baseline survey was conducted. An outline of household attrition and individual migration into and out of the sample, and its possible implications for the analysis, are given in Annex F.

⁵⁴ It was anticipated that unsuccessful contacts would be more likely for non-recipient households. This was primarily because of the length of time that had elapsed between the household listing exercise and the baseline fieldwork – meaning that households may have physically moved, or their characteristics may have changed, rendering them ineligible to be surveyed.

In addition to the household survey, interviews were conducted with community groups at baseline (256) and follow-up (203). Fewer community interviews were conducted at follow-up because the rules governing when adjacent groups of households were administered a single questionnaire were revised. A review of records for the main basic schools in each community was also undertaken at follow-up. This was done for a total of 124 schools, which were selected systematically, as they were the main schools used by the children in that community, but do not represent a random sample.

Table A.3 Actual sample size, by population group and district number of households, at follow-up

| District | Recipients | Non-recipients | | | Total |
|--------------|------------|----------------|---------|---------|-------|
| | Group A | Group B | Group C | Group D | |
| Nairobi | 142 | 42 | 22 | 12 | 249 |
| Kwale | 156 | 59 | 20 | 17 | 206 |
| Garissa | 239 | 32 | 14 | 13 | 201 |
| Homa Bay | 110 | 76 | 27 | 31 | 290 |
| Kisumu | 295 | 130 | 27 | 36 | 432 |
| Migori | 173 | 145 | 44 | 27 | 511 |
| Suba | 213 | 95 | 31 | 27 | 366 |
| Total | 1328 | 579 | 185 | 163 | 2,255 |

Due to targeting errors, as well as errors in the identification of OVC households in the EA household listing data, a small number of non-OVC households were included in the evaluation sample. These households were excluded when generating most of the estimates presented in this report (i.e. estimates relate to OVC households).

A.2 Programme allocation

A.2.1 Programme allocation to locations

The CT-OVC evaluation covers Nyanza (Kisumu, Suba, Homa Bay and Migori), Nairobi, Kwale and Garissa. These were selected by the Programme. The districts where transfers are currently being financed by the Government of Kenya only were excluded from the evaluation.

Before the evaluation team began work, a number of locations had already been selected (non-randomly) in which the Programme would operate. However, given the number of new recipients that could be financed, the Programme agreed to select some additional locations, plus controls, randomly. Therefore, in each of the seven districts covered by the evaluation, four additional locations were selected – two locations for Programme intervention, and two as controls.

This was done after ineligible locations had been excluded. Locations were excluded if they had low poverty rates, inadequate capacity for the supply of the relevant health and education services, or large existing OVC support programmes.⁵⁵

The Programme did not operate in control communities up to the point of the follow-up survey, and aimed to discourage other partners from beginning new work targeted at these communities. After the follow-up survey, and subject to evaluation feedback, the Programme committed to begin to operate in the control areas.

The choice of which districts would impose conditions with penalties was not done randomly, but was based on the capacity of those districts to supply the relevant services. Conditions with penalties were imposed in Homa Bay, Kisumu and Kwale; but not in Garissa, Migori and Suba. In Nairobi, in one of the two treatment sub-locations (Dandora B), conditions with penalties were imposed, but not in the other (Kirigu).

A.3 Household sampling

In the study locations, recipient households were sampled from Programme administrative records. Other households were sampled from household listings undertaken in a sample of census EAs. These EAs were sampled with probability proportional to population size (PPS), and all households within selected EAs were listed in the initial 'household listing' fieldwork phase, which took place between March and July 2006.⁵⁶

A.3.1 Identification of OVC households in the evaluation area household listings data

The non-recipient samples (Groups B, C and D) were drawn from a sample frame generated using the EA household listings data. The sample frame was created by excluding all non-OVC households from the household listings data.

An OVC household is defined as a household that contains at least one OVC. A child (aged below 18) is defined as an OVC, if:

- they are an orphan (single or double); or
- they are chronically ill;⁵⁷ or

⁵⁵ In Nairobi, there was a problem with the two control sub-locations, Airbase and Kayole. During the listings process, it became apparent that a large proportion of households in the EAs randomly selected for listing had no children. Also, these areas were, upon visual inspection, less poor than the two treatment sub-locations, Dandora B and Kirigu. It was therefore decided to extend the boundaries of these sub-locations to include nearby EAs that appeared less poor. For Airbase, these EAs were in Mutuini and, for Kayole, they were in Komorock.

⁵⁶ Note that the delay between the initial household listing process and the baseline fieldwork was not planned and, in fact, resulted in significant complications in the implementation of the baseline survey. The household listing process was actually scheduled to take place one month prior to the commencement of the baseline survey. However, following completion of the household listing process, the initiation of the Programme in the evaluation locations suffered from substantial delays.

⁵⁷ According to the targeting manual at the time of the baseline survey, a chronically ill person is defined as: 'a person who has at least been chronically ill for the last 3 months and is both physically ill and socially incapable of working. Among the illnesses under this category are the following: tuberculosis, HIV/AIDS or cancer. Chronically ill is defined as a disease which cannot be cured and is terminal.'

- they are looked after by a carer who is chronically ill.

Unfortunately, the identification of OVC households in the EA household listings data was constrained by the limited information captured in the household listings questionnaire, which was designed before the recipient selection criteria were finalised. Accordingly, it was possible to identify households with at least one orphan, but not households containing chronically ill children. It was also possible to identify households containing children and at least one chronically ill adult, but not whether the chronically ill adults were caregivers.

The approach taken was to identify a household as being an OVC household, if it contained:

- at least one orphan (single or double); or
- at least one child and one chronically sick adult.

Whilst not perfect, this approach, combined with the use of a series of filter questions at the start of the household questionnaire (which screened out sampled households containing no children, orphans or sick adults), resulted in few non-OVCs being included in the non-recipient samples (Groups B, C and D).

A.3.2 Sampling of households in treatment locations

The recipient household sample (group A) was randomly drawn by location from the list of eligible households identified to be invited to participate in the Programme. This took place prior to enrolment, such that sample recipient households did not know they were to participate in the Programme at the time of the baseline survey interview. This was done to minimise the risk that the impact analysis would be contaminated by households changing their behaviour at or around the time of the baseline survey, in anticipation of receiving cash transfers in the near future. However, the drawback of this approach was that not all households in the initial recipient sample were subsequently enrolled into the Programme as recipients, and therefore had to be dropped from the sample (see sub-section A.1 above).

The treatment location non-recipient sample (group C) was drawn (by location) from the sample frame generated using the EA household listings data, which provided a complete list of all OVC households in the randomly selected sample of EAs in each treatment location.

Note that it was not possible to check in advance whether any households were randomly included in both the recipient (group A) and non-recipient (group C) samples. In fact, there was a very small number of households (nine) in both samples. In these cases, the household was assigned to the recipient sample and a replacement non-recipient household was taken.

A.3.3 Sampling of households in control locations

Groups B and D were both drawn from the sample frame generated using the EA household listings data, which provided a complete list of all OVC households in the randomly selected sample of EAs in each control location.

See A.5 for details of how the OVC households in the EA household listing data were categorised as controls. This categorisation was used to stratify the non-recipient OVC household sample frame in control locations from which the group B and group D samples were drawn.

A.4 Sampling weights

The sampling weights produce estimates for OVC households living in the locations covered by the evaluation (i.e. the study population). They do not provide estimates for any larger population.⁵⁸

For the recipients, the weights are given by:

$$w(i) = N_i/n_i$$

where n_i is the number of recipient households interviewed in the i th location and N_i is the number of (expected) recipients listed in the location.

For the non-recipients, the weights are given by:

$$w(ij) = A_i/(m_i * a_{ij}) * N_{ijk}/n_{ijk}$$

where A_i is the total number of (OVC) households in the sample frame of EAs for location i , m_i is the number of EAs sampled in location i , a_{ij} is the number of households in EA ij , n_{ijk} is the number of households of type k interviewed in EA ij and N_{ijk} is the total number of households of type k listed in EA ij .

The analysis of the follow-up survey data used the same weights as at baseline. They were not adjusted for losses at follow-up. The basic analysis of the data treats them as two cross-sectional samples, and there is no reason to believe that the follow-up sample represents the whole of the baseline population, and no information to provide revised population totals at follow-up. The comparability between baseline and follow-up was maximised in the analysis through the exclusion of households lost to follow-up from the (revised) baseline estimates presented in this report. Annex F demonstrates that the results of the impact analysis are reasonably insensitive to the weights used.

The communities interviewed in the sample were a function of the selected EAs and recipients, and the extent to which they were geographically clustered. As such, defining weights for community level data is difficult. In practice, most community information has been read down to household level and analysed with household weights. The exception to this is for the orphan roster analysis, where community weights were approximated by the sum of the household weights (across the households linked to that community interview).

A.5 Stratification of listed OVC households in control locations

In control locations, an attempt was made to mimic the Programme selection process when categorising households as eligible to be a control household.

A household was classified as eligible for the Programme, if it satisfied both of the following conditions:

1. that the household contains at least one OVC, and
2. that the household is poor.

⁵⁸ The weights do not, therefore, incorporate the selection probabilities for the sub-locations, since they were selected randomly to reduce the chance of systematic differences between intervention and control populations, not as a sample to represent district populations.

Therefore, in control locations the OVC households identified in the household listings data were categorised as being in the control group (group B) if they were poor. A listed OVC household was defined as being poor if it was in the bottom 40 per cent of the distribution of predicted monthly consumption expenditure per adult equivalent for all listed households containing children in that district. In other words, the cut-offs were defined across all sampled EAs (i.e. where listing took place) in the four evaluation locations in each district.

Household consumption was predicted using a set of household characteristics collected from all listed households that contained children. By applying scores, or coefficients, to each of these characteristics, an estimate of consumption expenditure could be calculated for these households. These coefficients were estimated using data from the 1997 Welfare Monitoring Survey (WMS) household survey, with total household consumption expenditure being regressed upon the set (or sub-set) of household characteristics that are also available for the listed households.

Table A.4 below summarises the estimates of the final regression model. The dependent variable is logged per adult equivalent monthly household consumption expenditure. The model was run on WMS 1997 household data for Nyanza, Nairobi, Coast and North Eastern regions. The estimated coefficients were applied to the household listings data to estimate a predicted value of monthly consumption expenditure per adult equivalent for all listed households (containing children).

Table A.4 Predicting household consumption expenditure for the stratification of listed OVC households in control locations

| Explanatory variable | Description | Coef. | Standard error | t-value | P>0 | 95% confidence interval | |
|----------------------|--|-------|----------------|---------|------|-------------------------|-------|
| coast_NE | Dummy equal to one if household is in Coast or North Eastern region | -0.24 | 0.04 | -5.89 | 0.00 | -0.31 | -0.16 |
| urban | Dummy equal to one if household situated in an urban locality | 0.59 | 0.04 | 13.33 | 0.00 | 0.50 | 0.67 |
| nochildren | Number of children in household | -0.14 | 0.02 | -7.50 | 0.00 | -0.18 | -0.10 |
| nochildren2 | Number of children in household squared | 0.01 | 0.00 | 3.23 | 0.00 | 0.00 | 0.01 |
| education_3 | Dummy equal to one if household head has had 4–9 years of education | 0.14 | 0.03 | 4.65 | 0.00 | 0.08 | 0.20 |
| education_5 | Dummy equal to one if household head has had 10–12 years of education | 0.27 | 0.04 | 6.15 | 0.00 | 0.18 | 0.35 |
| education_6 | Dummy equal to one if household head has had more than 12 years of education | 0.79 | 0.08 | 9.85 | 0.00 | 0.63 | 0.95 |
| education_7 | Dummy equal to one if household head's level of education is unknown | 0.25 | 0.08 | 2.98 | 0.00 | 0.08 | 0.41 |
| water_2 | Dummy equal to one if household's main source of water is a public tap or borehole | -0.22 | 0.04 | -5.40 | 0.00 | -0.30 | -0.14 |
| water_3 | Dummy equal to one if household's main source of water is a well or spring | -0.20 | 0.06 | -3.61 | 0.00 | -0.31 | -0.09 |
| water_4 | Dummy equal to one if household's main source of water is a river, lake, pond or rainwater | -0.28 | 0.05 | -6.12 | 0.00 | -0.37 | -0.19 |
| walls_2 | Dummy equal to one if walls of household dwelling are made of stone | 0.43 | 0.04 | 9.83 | 0.00 | 0.35 | 0.52 |
| walls_3 | Dummy equal to one if walls of household dwelling are made of cement/bricks | 0.21 | 0.05 | 3.85 | 0.00 | 0.10 | 0.31 |
| walls_4 | Dummy equal to one if walls of household dwelling are made of wood/grass/sticks/ <i>makuti</i> | 0.31 | 0.08 | 3.73 | 0.00 | 0.15 | 0.47 |
| walls_6 | Dummy equal to one if walls of household dwelling are made of iron/ <i>mabati</i> | 0.24 | 0.07 | 3.51 | 0.00 | 0.11 | 0.38 |
| walls_7 | Dummy equal to one if walls of household dwelling are made of some other material (not mud/dung) | 0.55 | 0.26 | 2.16 | 0.03 | 0.05 | 1.06 |

Kenya CT-OVC Programme – Operational and Impact Evaluation: 2007–2009

| Explanatory variable | Description | Coef. | Standard error | t-value | P>0 | 95% confidence interval | |
|-----------------------------|---|--------------|-----------------------|----------------|---------------|--------------------------------|-------|
| rooms_3 | Dummy equal to one if household dwelling is contains 3–5 rooms | 0.45 | 0.04 | 10.63 | 0.00 | 0.37 | 0.53 |
| rooms_6 | Dummy equal to one if household dwelling contains more than 5 rooms | 0.43 | 0.08 | 5.17 | 0.00 | 0.27 | 0.59 |
| radio_2 | Dummy equal to one if household does not own a radio | -0.15 | 0.03 | -5.02 | 0.00 | -0.21 | -0.09 |
| child_radio_2 | Dummy equal to one if household contains at least one child, interacted with radio_2 variable | -0.11 | 0.05 | -2.27 | 0.02 | -0.20 | -0.01 |
| child_coastNE | Dummy equal to one if household contains at least one child, interacted with coast_NE variable | 0.31 | 0.06 | 5.09 | 0.00 | 0.19 | 0.43 |
| child_education_6 | Dummy equal to one if household contains at least one child, interacted with education_6 variable | 0.36 | 0.14 | 2.54 | 0.01 | 0.08 | 0.64 |
| child_water_2 | Dummy equal to one if household contains at least one child, interacted with water_2 variable | 0.24 | 0.05 | 4.41 | 0.00 | 0.13 | 0.34 |
| nyanza_urban | Dummy equal to one if household in Nyanza, interacted with urban variable | -0.34 | 0.07 | -4.82 | 0.00 | -0.47 | -0.20 |
| nyanza_walls_3 | Dummy equal to one if household in Nyanza, interacted with walls_3 variable | 0.21 | 0.07 | 2.83 | 0.01 | 0.06 | 0.35 |
| nyanza_rooms_3 | Dummy equal to one if household in Nyanza, interacted with rooms_3 variable | -0.52 | 0.05 | -9.75 | 0.00 | -0.62 | -0.41 |
| nyanza_education_5 | Dummy equal to one if household in Nyanza, interacted with education_5 variable | 0.13 | 0.06 | 2.17 | 0.03 | 0.01 | 0.24 |
| Cons | Constant | 6.48 | 0.05 | 120.12 | 0.00 | 6.38 | 6.59 |
| N | 3282 | | | | | | |
| R-squared | 0.56 | | | | | | |

Source: WMS 1997 household data for Nyanza, Nairobi, Coast and North Eastern regions.

Note: (1) Dependent variable is logged per adult equivalent monthly household consumption expenditure.

**Table A.5 Predicted versus actual (WMS) consumption expenditure levels:
All listed households, 2006**

| | WMS (1997) Actual household consumption | | | CT-OVC evaluation household listing (2006) – predicted household consumption |
|--|--|--------------------------------|-------------------|--|
| | Households with children | Households without children | All households | All listed households (with children) ² |
| Mean per capita income (1997 prices) | 836 | 1,971 | 1,161 | 737 |
| Mean per adult equivalent income (1997 prices) | 1,049 | 1,971 | 1,313 | 830 |
| Mean number of children | 3.2 | 0.0 | 2.4 | 3.2 |
| Proportion with household head with no education (%) | 0.32 | 0.44 | 0.35 | 0.23 |
| Proportion with orphans (%) | - | - | - | 0.30 |
| Proportion with adults too sick to work for much of preceding 6 months (%) | 0.07 | 0.06 | 0.06 | 0.09 |
| Proportion with piped water or a private borehole (%) | 0.12 | 0.17 | 0.13 | 0.04 |
| Mean number of rooms | 3.4 | 3.9 | 3.5 | 2.8 |
| Proportion owning animals (%) ¹ | 0.56 | 0.35 | 0.50 | 0.68 |
| Proportion owning a radio (%) | 0.57 | 0.48 | 0.55 | 0.64 |
| N | 2,735 | 949 | 3,684 | 14,058 |

Notes: (1) Excluding chickens for WMS estimates. (2) Listings data was only recorded for households containing children.

Annex B Summary of findings from the qualitative studies

B.1 Overview of the baseline and follow-up studies

B.1.1 Method

The qualitative fieldwork took place in two rounds. A baseline survey was conducted in November and December 2008. Baseline fieldwork comprised 15 focus group discussions and some informal semi-structured interviews. The fieldwork took place in five districts (Garissa, Kwale, Nairobi, rural Nyanza, and urban Nyanza), with three focus groups in each (caregivers receiving transfers, non-recipients, and children in recipient households). Key findings and recommendations from this baseline survey will be repeated here but, for more methodological and analytical detail, please see the full report.⁵⁹ A second ‘follow-up’ round of qualitative fieldwork took place in November 2009, and this Annex reports on this round of fieldwork in greater detail.

There are two principal components of the second round of qualitative fieldwork. First, a set of nine focus group discussions (FGDs) were conducted in three Programme areas across Kenya. In each area, as in the first round, qualitative researchers conducted three different FGDs. These groups were the same types of respondents as in the baseline study (i.e. caregivers in households receiving transfers, children in households receiving transfers, and non-recipients). The second source of information is a set of semi-structured interviews conducted with Programme officials, including District Children’s Officers, members of the District OVC Sub-committee (DOSC), members of Location OVC Committees (LOCs), Provincial Administration (chiefs), and officers responsible for filling compliance forms at schools and clinics (in areas where conditions are monitored by Programme). Researchers also conducted additional interviews and observational research as necessary.

As with the baseline survey, these areas were selected purposively to provide a range of situations: areas where conditions with penalties are/are not imposed; rural/urban, and accessible/inaccessible. The areas were Kwale, Nairobi, and rural Nyanza. Given the small sample of areas and small number of interviews, the findings presented should not be taken as representative of the Programme in these areas, or of Kenya as a whole. Rather, they should be read together with the quantitative evaluation to add texture, and to provide some possible explanations and suggestions on possible improvements for the future.

Between them, the FGDs and interviews covered three areas identified by the Programme as the most important to analyse. These would cover Programme operations (particularly targeting, payments, case management, staff, conditions, and complementary services), impacts (particularly on retention and fostering of OVCs, economic impacts, widow inheritance and the confidence of women), and suggested improvements.

B.1.2 Summary of findings

Follow-up findings showed some similarities and some differences between the districts. As also found in the baseline study, there were almost no reported impacts on fostering of OVCs (i.e. of additional children adopted by recipients through greater capacity, willingness

⁵⁹ See Oxford Policy Management, ‘OVC Cash Transfer Programme Evaluation, Qualitative Baseline Report’ (mimeo, June 2009)

or obligation, or additional children adopted by non-recipients in the hope that they would be selected in later targeting rounds). Fostering continues to be driven by family obligations in each district. However, recipients and non-recipients expressed greater enthusiasm about fostering, as recipients feel more rewarded for taking care of OVCs and have greater capacity to do so, and non-recipients hope they might be selected into the Programme in further targeting rounds. It is possible, at the margin, that this may have a slight impact on fostering rates.

Stronger impacts were reported on the retention of OVCs in households, as recipient caregivers are better able to care for children, making it more attractive for children to stay at home and easier for them to attend school (now better clothed and fed), and as caregivers impress on children – and appreciate themselves – the importance of attending school. This impact on perceptions on the importance of attending school was found to a lesser degree in non-recipient households. Caregivers' emphasis on school attendance seems to derive from Programme penalties for non-compliance in conditional areas. However, a similar attitude amongst caregivers in Nairobi (a non-conditional area) suggests that penalties (such as hard labour) imposed by the Provincial Administration on caregivers for failing to ensure their children attend school (as a result of the recent education law) also provide a significant, and perhaps decisive, motive for caregivers to emphasise school. Moreover, respondents refer to free basic education as playing a significant role in permitting children to attend school.

As with the baseline survey, some positive and negative economic impacts were identified. These were intensified in more remote areas where the cash base is lower, making the economy more sensitive to cash injections. On the negative side, some recipients in rural Nyanza reported inflated transport prices, particularly on pay days, as transport supplies are inelastic and prices increase. On the positive side, some caregivers started businesses with the transfer money, and those businesses still sustain them. While recipients and non-recipients mentioned new business, officials would also discuss the scale of the transfers: Ksh 600,000 (rural Nyanza) or Ksh 1,000,000 (Kwale) going into a small community every two months has important multiplier effects for shopkeepers and other small businesses.

Widow inheritance, practised in Nyanza, was affected to some extent by the transfer. Female recipients reported greater confidence and self-reliance, enabling them to choose not to be inherited. Moreover, women focused more on their children than on finding a husband, since those children were also an important resource that allowed them to operate independently. Despite their additional income, widows were not reported as being more attractive to potential replacement husbands.

The impact on women's confidence was limited and mixed. Some women reported being able to speak more freely with health and education professionals because they had the money to pay for those services, and were able to secure credit from teachers and shopkeepers on the basis that their transfer would come. Improvements in children's appearance as a result of the transfer raised their confidence and that of their mothers. However, broader impacts on women's confidence were not reported, except by government officials who felt women were more confident with them, although the women themselves did not report this. Moreover, some recipients felt that non-recipients in the community became more jealous and would refuse to help them.

Findings on selection processes did not differ significantly from the baseline. Overall, the process selected recipients who were poor and households containing orphans (which received greater attention than vulnerable children in most people's minds, and possibly in practice): inclusion errors were low. However, the reliance on LOC members for the initial identification of all households containing OVCs created some exclusion errors (Form 1), as

LOC members did not know, were unable to find, or did not like some households containing OVCs in their village. These errors should have been corrected in the validation *baraza*, but rarely were because community members almost never felt able to challenge the lists presented to them in the *baraza* (although Programme staff are all aware that the *barazas* were for this purpose). Households not selected were told that the computer had left them out, and appeals forms were not distributed in any location visited. Programme staff felt that the distribution of such forms would lead everyone to appeal, suggesting the criteria for selection were not sufficiently tightly defined or clearly communicated.

Payments systems continued to work well: recipients were generally very happy with the post office system, which was rarely corrupt and made few mistakes. Post office and Programme staff were able to deal very quickly with any cash shortages, with a variety of mechanisms to communicate and solve problems (involving chiefs in some places, LOC members in others, and the DCO in yet others). Some problems with queues found in the baseline survey have improved over time. Indeed, the development of functioning *ad hoc* mechanisms to solve most problems and address most complaints was evident in most locations, although each location discovered its own way of resolving difficulties rather than following a common pattern of methods. Recipients were told about transfers through a variety of methods. Their least favourite was through the radio (rural Nyanza), which they felt raised security problems (as would any public announcement) by telling everyone in the locality that cash was coming. Preferred methods included having clear dates for collection or being told individually; this occurred in some areas, but imposed costs upon the LOC members (usually) responsible for spreading the information.

As in the baseline, complaints arose when post offices were very distant from villages, as in Garissa in the baseline study and rural Nyanza in the follow-up, because households incur significant transport costs in picking up their cash. Recipients were also typically unaware when they had been penalised or exited (when their child exceeded the maximum age), and discovered this at the post office, to their great surprise and dismay. Post office staff were rarely able to deal with or explain this, and LOC members or chiefs would often have to follow the matter up with district officials to seek an explanation. District officials were not always able to provide this, and the team encountered at least one former recipient, introduced by a very knowledgeable and active LOC member, who was still confused about her exit over a year ago.

Case management (i.e. conveying information between recipients and non-recipients and the Programme) was typically undertaken by one person in each area. This was generally an LOC member, chief or other concerned person, in each case acting voluntarily. This tended to be *ad hoc* and did not follow a blueprint. The effectiveness of case management depended strongly on the knowledge and enthusiasm of this representative, which was in some cases more impressive than in others. This person would attempt to deal with as many cases as possible directly, and refer others (usually in writing or by phone) to the chief or DCO, who would find solutions or, again, refer upwards (e.g. to Nairobi). Not all recipients would know this person, and recipients would rarely know of or visit the DCO directly, unless referred. Recipients tend to depend strongly on this representative for their interaction with the Programme, including obtaining, filling out and returning updated forms (for changes of school, new fostering and so on). In cases where this representative was not active, recipients would not fill out forms (and may not even have realised they needed to), and penalties could result.

The follow-up study investigated further the roles, capabilities and support of Programme staff. Despite the crucial role played by the (informally appointed) representative in each community, and the resources they expend on communication, transport and time, there are

no terms of reference or remuneration for this role. This is problematic, because it renders the Programme highly dependent on one person without an institutional mechanism for replacing them. The lack of formal terms of reference also means that the implementation of the Programme varies significantly, depending on the representative's interpretation of their role, and their knowledge and activism. The lack of formal remuneration makes it likely that this person is informally remunerated, either through 'lunches' or 'sodas' provided by the DCO and Provincial Administration from general Programme or office funds, or, perhaps more concerning, through preferential access to public resources, such as food aid. The LOC seems to function well during targeting but then becomes defunct, its activities largely continued by one or two persons. At district level, the role of the DOSC is very unclear, and DOSC members had little information about the Programme.

The follow-up study explored whether recipients were told that conditions were attached to the transfer, whether they were penalised by the Programme for non-compliance, and what the results of this were. In theory, Programme penalties were imposed in Kwale and rural Nyanza, but not Nairobi (the district the qualitative research team visited). In practice, recipients were told everywhere that they needed to do certain things in order to receive the transfer. These activities generally involved obtaining birth and death certificates for children; using the money to pay for children's clothes, school fees and food; and taking children to schools and health clinics. Very few recipients were aware of anything much more precise than this (e.g. growth monitoring, immunisations, and so on). In Nairobi, where compliance is not required, recipients knew that they had to take their children to school and to clinics (for those up to 5 years of age) 'or you will answer for this', when in fact the Programme does not impose penalties on these households if they do not. Partly, this can be explained by compulsory basic education, which means that the Provincial Administration (with whom the LOC in Nairobi work closely) is seeking to enforce school attendance. Partly, it can be explained by the active LOC member's background and her additional job as a community health worker – it makes sense for her to link the Programme and her health objectives.

Education penalties (deductions) had been implemented in Kwale and Nyanza but, typically, are implemented with some flexibility, in that teachers could fill the register taking into account why children had missed school, and not penalising them for missing school with good reason. Indeed, teachers' awareness of the implications of their form-filling on their students may have led to some lenience. No one reported that conditions were unfair, provided they were applied only to basic schooling (since secondary schooling is far too expensive). Where penalties were made, those penalised often did not know why this was done.

Enforcing compliance with health service utilisation conditions proved difficult to implement, in practice. Health centre workers, particularly in large hospitals, found form-filling very onerous, and were presented with significant problems when health services were delivered by mobile clinics. In each district, there seemed tacit acceptance among Programme and health staff that recipients would not be penalised for missing health consultations, providing their children were immunised. Very few recipients reported visiting health clinics regularly (although they went when children were ill) but not all of these were penalised, and Programme staff acknowledged the challenges they felt in enforcing these penalties.

Forms were generally collected from and delivered to facilities either by children's officers or by the Provincial Administration. This involved some expenditures if Programme cars were not available (they often were not), and was time-consuming, particularly in large rural locations where there may be 10 basic schools and five health centres. In some cases, these large distances and costs meant that forms were collected or delivered late. While forms were filled out well by staff in some health centres and schools, in other facilities staff had not

been trained (because they were new) and so did not know how to fill out the forms, or they did not have enough time. The Department of Children's Services (DCS) reported that the Ministries of Health and Education did not see this as being their responsibility, and felt that the DCS should obtain the forms and deal with any attendant difficulties. Sometimes, this involves calling meetings with parents and teachers to check retrospectively using education and health cards, rather than working directly through the internal school and health systems.

Complementary services were not offered in a systematic way, and were usually restricted to awareness sessions that anybody could attend. These sessions would discuss how to use the money and, in some cases, financial management and more general issues, such as registration of births and deaths, and HIV. In some areas (Nairobi and Kwale), NGOs were also working with OVCs, but there was rarely significant collaboration. Programme staff felt that much more could be done, including income generation training to maximise the use of the money, Voluntary Counselling and Testing (VCT) clinics outside post offices (in locations where no services are currently offered), education around family planning, and information on parenting for grandparental caregivers.

Baseline study findings

Key baseline findings will not be repeated in the text below, but are repeated here.

- Overall, baseline findings were very positive. Respondents generally felt that recipients deserved to receive transfers, and that the transfers were extremely useful to them. The payments process was working very well, and recipients had no significant complaints about Programme operations. Respondents' reports suggested that more children were attending schools and that children were doing less work. Women felt empowered. The post-election problems had almost no impact on the Programme's operations.
- Although respondents felt recipients deserved to receive the transfer, they also felt that there were large exclusion errors. Some of these errors were generated as households were excluded during targeting. This was principally because the targeting process was felt to be conducted by local administrations visiting houses that they believed contained OVCs. Since they often did not know where OVCs lived, especially in distant households, many felt they had missed out. The community *baraza*, where communities were supposed to participate actively in validating the final selection (by adding, removing and reprioritising households), usually operated merely as a final announcement of the list by the administration. This list was felt to be 'generated by a computer'. Other exclusion errors were generated as new OVC households came into being after targeting took place, but there was no mechanism for the Programme to be extended to include them. Non-recipients often felt upset and confused as to why they are not in the Programme, and usually referred to the 'computer selection' as explanation.
- The payments process was generally working very well, and respondents had few complaints about it. In some cases, however, queues at the post office were long, and on some occasions, they had to return the following day. This was found to have improved at follow-up. In Garissa, the nearest post office was a 12-hour walk away. Nevertheless, recipients felt that these inconveniences were easily negated by the reward of receiving the transfer. Typically, recipients did not know very much about their entitlements under the Programme: they were happy to receive the transfer and so did not like to complain. LOC members were often unable to provide them with more information.
- The imposition of conditions with penalties by the Programme is unlikely to have had a discernable impact at this point. This is because health conditions are not implemented anywhere, and every local administration (chiefs, sub-chiefs, and so on) acted as if

school attendance conditions were imposed in their sub-location, whether they were supposed to be demanded by the Programme or not. The government recently passed a law on attendance at basic school, which local administrations are enforcing in earnest. The qualitative baseline study therefore suggests that there is little practical difference between areas where conditions with penalties are supposed to be enforced and areas where they are not. This implies that the quantitative work is unlikely to find significant differences in impact generated by conditions with penalties.

- Nevertheless, some respondents understand the intended Programme conditions, and most respondents – both recipients and non-recipients – feel that conditions are a good idea to prevent misuse. Households with many children often find it difficult to comply with conditions, because of the fixed value of the transfer and the high costs associated with sending many children to school. Respondents felt that they should not be penalised for this. LOC members could help to manage these cases.
- Impacts reported by recipient households were positive, and they were extremely grateful. They spent the transfer on shared household items, such as (first) food, water, and shelter, and, recognising that the transfer was supposed to be for the children, also spent on school items (uniforms, shoes, books, and fees) when the need arose. However, respondents noted that the real value of the transfer has declined substantially with the general price inflation in Kenya. Although impacts on health and (particularly) education were positive, the impact on fostering orphans was unclear – although probably negligible, as family obligations largely determine the incentives to foster orphans.
- Evidence for negative impacts (conflict, dependency, misuse, and price inflation) was limited. Some households reported jealousy and anger, but not open conflict. There was no evidence that the transfers led to reductions in work or livelihood activities (i.e. dependency), except of children. There was very little evidence of misuse. There was no evidence of sustained price rises as a result of the transfer, although there were price spikes on payment days.
- The impact on household decision-making was typically quite limited, because most carers are widows (i.e. the only adult in the household). In cases where husbands and wives lived together, there was limited evidence that the wife's role in decision-making was strengthened.
- The impact on recipient children (not just OVCs) was positive. Households reported that children attended school more and worked less, although they continue to work for money and on domestic chores. Children are able to attend school more frequently, principally because they are less hungry, because they are better dressed, and because they have to work less. Where fees are required, the transfer helps meet these costs, too. Children are able to attend health facilities more often when they are ill. Some recipient children reported being discriminated against by other children because they received the transfer: the others would not play or share food with them.
- The impact on women was also positive. Women were typically those collecting and spending the transfer (as widows), and they felt better respected by the community because they were better able to care for their children. Where women are married, there was limited evidence about whether they also felt better able to influence household decision-making. There was a risk of theft when collecting the transfers, but typically only if they had to return after dark because of the long line.
- The impact of the post-election problems on the Programme was small, because the worst problems occurred in January when payments were made in December and February. The problems had negative impacts on recipients in Nairobi and Nyanza, but did not substantially affect the Programme.

B.1.3 Summary of recommendations

These baseline and follow-up findings, together with suggestions from respondents, generate several recommendations that can be set next to recommendations from the baseline report. The follow-up study suggests:

- **Clearer terms of reference** for Programme staff. Many staff were unclear about their roles and the extent of their responsibilities. In particular, in research areas there was often one person (or two persons), in practice, largely responsible for Programme delivery at community level (LOC members, chiefs, or other volunteers). However, they are unsure of their mandate, the resources they are expected to contribute and receive, and the training they should have. Clear and explicit terms of reference would address this.
- **More regular training for Programme staff** (at district, community and facility (school and health centre) levels) to maintain skills and motivation, and to reduce and address the consequences of staff turnover. Staff reported being unsure of certain aspects of the Programme, especially where changes to the Programme had been made, or staff had moved (and new staff had simply never been trained). More regular training would maintain and reinforce their knowledge, and help ensure that new staff are able to fulfil Programme responsibilities. Training would also provide some motivation to staff, particularly volunteers, who would feel more appreciation from and contact with the Programme.
- **Remuneration for key individuals.** The volunteers and other frontline staff whose OVC Programme duties are in addition to their own (e.g. Programme officers in schools and health clinics) expend time and resources on the Programme, but receive no formal remuneration. This affects their motivation, contributing to the risky reliance on small numbers of committed volunteers for frontline Programme delivery, and patchy monitoring of conditions. It also encourages informal remuneration from other funds, generating inefficiencies. Formal remuneration would encourage delivering against terms of reference and would improve staff motivation; it would reduce risks in the current design, as well as improving delivery.
- **More support to meet health conditions** and clearer structures for dealing with mobile clinics. Recipients and Programme staff both acknowledge weaknesses in health condition monitoring, because few people (in health centres or elsewhere) see the value of penalising households who do not attend growth monitoring, and health care can be obtained from multiple sources (including mobile clinics, community health workers and a network of hospitals), and there is no value in penalising households who do not go to their registered clinic.
- **Clearer terms of reference for Programme officers** in schools and health facilities, and closer coordination with the Ministries of Education and Health to ensure forms are filled in transparently and in a timely manner, and a means by which forms can be transferred simply and easily to the District Officer (DO).

Recommendations from the baseline included:

- **Linking the value of the transfer to the number of OVCs in the household.**
- **Indexing the transfer value to inflation.**
- **Repeating the targeting each year** in order to include newly-eligible households. This targeting should have community involvement in the generation and validation of the list of households.

- **Improving communication channels** between the Programme and recipients. This might include allowing LOC members to undertake case management, and helping them by supplying bicycles.
- **Promoting greater awareness of the Programme** through visual aids and notices in communities, and through an annual repetition of the targeting processes.
- **Considering alternative payment modalities**, such as secure cars, to distribute cash in very remote locations.
- **Considering complementary interventions**, such as HIV/AIDS awareness and financial services (e.g. microfinance) to maximise impacts.

In general, these recommendations were supported by the follow-up survey.

B.2 Follow-up study – detailed report

Method

B.2.1 Selection of areas

Three geographical areas were selected for the research, in accordance with the terms of reference. These were:

- Kwale;
- Nairobi; and
- Nyanza (rural).

It was decided that, within these areas, the qualitative fieldwork would take place in areas that were currently evaluation locations/sub-locations (i.e. those areas where quantitative evaluation fieldwork was taking place). These locations had been randomly sampled for the quantitative baseline study. To select precise areas for the qualitative fieldwork, it was decided purposively to stratify the evaluation locations by:

- rural or urban;
- whether or not conditions with penalties were imposed; and
- good or poor accessibility.

Qualitative fieldwork took place in specific enumeration areas (EAs). Five EAs were sampled randomly from within these strata. Table 7.1 presents the selected EAs.

Table 7.1 Intended selection of locations

| District | Sub-location | Enumeration area/village | Conditions | Rural or urban |
|-----------------|---------------------|---------------------------------|-------------------|-----------------------|
| Nairobi | Kirigu | Kirigu 'B' | No | Urban |
| Kisumu | West Kabuoch | Wayaga 'A'/Rachong | Yes | Rural |
| Kwale | Msambweni | Bomani | Yes | Rural |

Note: According to Programme staff met on the 29 November 2009, Msambweni may be a rural area in Kwale (although marked as 'urban' in the database), and other evaluation rural areas in Kwale (Mwatate) are flooded and inaccessible. Researchers visited rural areas of Msambweni, and also conducted fieldwork in Mwatate after the flooding receded.

The selection of EAs was therefore largely purposive, because the stratification was purposive. However, there were elements of randomisation, in that the selection of quantitative evaluation locations was random, and the selection of EAs for the qualitative research was also random within the strata. It should be emphasised, however, that the strata were very small – in most cases not more than four enumeration areas. The implication is that the qualitative results should not be taken to be representative of the Programme area or these particular strata. Instead, the qualitative results should be interpreted as indicative.

B.2.2 Activities conducted

Focus group discussions

The Programme and UNICEF, in conjunction with OPM, decided to conduct FGDs with three different sorts of participants in each enumeration area:

- Programme recipients: carers;
- Programme recipients: children (aged 9–12/13 years and 12/13–17 years); and
- Programme non-recipients.

The fieldwork conducted is presented in Table B.1.

Table B.1 Focus groups conducted

| District | Carers | Children | Non-recipients | Total |
|----------|------------------|------------------|------------------|----------|
| Nairobi | 1 (male, female) | 2 (male, female) | 1 (male, female) | 3 |
| Homabay | 1 (male, female) | 2 (male, female) | 1 (male, female) | 3 |
| Kwale | 1 (male, female) | 2 (male, female) | 1 (male, female) | 3 |
| | 3 | 6 | 3 | 9 |

Semi-structured interviews

Semi-structured interviews included at least one interview with:

- District Children's Officers;
- members of the District OVC Sub-committee (DOSC);
- members of Location OVC Committees (LOCs);
- Provincial Administrations (chiefs); and
- officers responsible for filling compliance forms (where conditions with penalties apply) at:
 - schools; and
 - clinics.

The following interviews were conducted:

Kwale: DOSC member (education), DOSC member (statistics), DCO, Postal Officer, DO, teacher, Children's officer, district hospital matron, children, carers, area councillor, non-recipients, children, LOC member, chief, sub-chief, carers, non-recipients, LOC chairman, health worker, recipients.

Homa Bay: DCO, DOSC member (health promotion officer) chief, Programme health officer (Kabuoch), teacher, LOC member (Kabuoch), Assistant District Education Officer, Registrar of persons, two LOC members (Ogande), post office representative, children, non-recipients, recipients.

Nairobi: DCO, CO, DOSC member, two NGO representatives on DOSC (World Vision and AMREF), two LOC members, health centre worker, teacher, postal worker.

Detailed outline of findings from the follow-up study

Fostering and retention of orphans and vulnerable children

As stated in the Programme's Operation Manual, the overall objective of the Programme is to provide a social protection system through regular cash transfers to families living with OVCs, in order to encourage fostering and retention of OVCs within their families and communities, and to promote their human capital development. The qualitative baseline study pointed out that a transfer with a one-off targeting process whose value is not dependent on the number of OVCs in the household produces the following incentives to foster further OVCs:

- foster OVCs just prior to targeting; and
- foster an additional OVC when the youngest existing OVC in the household is approaching adulthood – so that the household does not automatically exit the Programme.

Encouraging and empowering communities and households to foster a greater number of OVCs and retain them for longer was one of the key objectives of the Programme. However, the baseline qualitative work found that 'impact on fostering orphans was unclear, although probably negligible as family obligations largely determine the incentives to foster orphans'. Some respondents referred to a greater desire to care for orphans, because they believed they would receive the transfer – although this was an erroneous belief, since the Programme does not repeat targeting and enrolment in an area.

The follow-up study tested the following hypotheses:

1. Households with OVCs that receive the transfer now have higher incentives to continue to care for them than households that do not receive the transfer;
2. Households receiving the transfer have greater capacity to care for additional orphans. At the margin, recipients may choose to adopt an additional orphan because they are receiving resources to support orphans, whereas non-recipients may decline to adopt an orphan because they are not;
3. Recipient households are seen as households that 'should' be adopting orphans, all other considerations being equal; and
4. Numbers of street children, child beggars, child labourers, and child-headed households have decreased in communities where the transfer is taking place, and this is related to the transfer.

The follow-up research, again, found little impact on the number of orphans fostered, but suggested that households have more enthusiasm for fostering and retain children for longer. In particular, several respondents reported that instances of early marriage had reduced.

Again, no respondents reported that households fostered more orphans prior to targeting, mainly because there was no time to recognise the incentives and there was little belief that benefits would come. Caring for children was, again, found to be based far more on family obligations – and respondents in Nairobi spoke of a taboo against fostering children who were not relatives. However, children might choose to stay with households with better resources rather than to marry or to beg. While the transfer did not confer a specific obligation on households, greater capacity did help households to care for orphans and made them more enthusiastic. The numbers of children living on the street may have been slightly reduced by the transfer, but also due to the provincial administration's enforcement of compulsory basic education. In both cases, this is because households retain children for longer while they complete basic education (either because of greater capacity, or fear of punishment) and this delays any potential move out of the household onto the street. However, for those children who have always remained outside households (e.g. with no local family structure), this change may not have occurred.

Non-recipients reported no additional obligation or incentive to care for OVCs because of the Programme, but did state that the transfer made it easier to look after orphans and enthused people to look after other vulnerable children. In Kwale, they reported that the Programme 'has given people heart to accommodate more orphans, but none have actually taken more on. You have to take children – they are our grandchildren'. In Homa Bay, they reported that they found it 'easier to look after OVCs with transfer, but still feel duty to look after orphans without it'. In Nairobi, the group was less clear-cut. Some argued that the Programme would make it easier to care for OVCs, and that they currently take care of orphans, but are often unable to take care of them very well.

Carers reported that, while they have not taken on additional orphans after the start of the Programme, they are better able to look after them (Kwale), and the existence of the Programme has generated a general sense of obligation in some communities (Kwale and Nairobi) to look after orphans. In Nairobi, carers felt that children loiter less in the street and, if they are found in the streets, the 'chief deals with them'. This suggests that changes to the law have influenced the administration's attitude to children not attending school, and they have perhaps used the Programme as a lever to compel households to care for children who would otherwise be spending time on the street during the day.

Children in Kwale indicated the importance of carers' ability to look after them for the length of time during which the children remain at the carers' home: 'Some parents say that they don't have money, so they force you to be married in exchange for money. Some girls go to boys to be given money. Some girls are not taken care of by parents; when they go out at night, they are left to do what they want. Now, at least girls get what they want at home.' In Homa Bay, children felt that OVCs are treated better in households that receive the transfer, since they are seen as less of a burden. They also felt that 'more orphans [are] encouraged to stay at home and with their family, as there is a risk that they eventually may leave to start own families and not support carers. Fewer orphan girls are now getting married at a young age to escape poverty.'

Overall, therefore, the sense from communities is that the transfers improve households' ability to look after orphans and to send them to school, and this makes orphans more willing to stay for longer, marry later, and attend school longer.

Programme staff, service providers (teachers and health workers) and chiefs agree with this view, arguing that the transfer enables households to look after children better, but not necessarily to foster new children. Families tend to look after orphans due to custom. As a DO in Kwale puts it:

With the free primary education almost everybody goes to school and in the family set-up no child is left alone, despite the poverty level being high at least everybody has somewhere to stay. We cannot say the family set-up is that strong because most kids do not live with their biological parents, but in this unit he lives with a relative ... maybe with somebody buried ... the children are with the grandparent but at least they are with a relative. You don't see children living in the streets around here.

Teachers note that those households receiving the transfer are able to send their children to school because they can afford food, uniforms and shoes. In some cases, teachers are more positive about the possibilities created by the transfer in encouraging households to take better care of the orphans they have already fostered, leading to delays in marriage:

[Some families reported that they] had ignored their brother's children, [they] do not have the capability but they have just taken them to be part of their family. So that they attend school so that whatever they are getting they share together with them ... Child marriages have reduced very much, because you see if a child is an orphan and in the evening they do not know what they will eat they will be used. Now that has reduced because they know even if they go to school they will get something to eat.⁶⁰

In Nairobi, LOC members sum up the general picture: households are 'not adopting more orphans. It's strictly on family members – I don't take those from outside, I take care of the orphan I have. But people take better care and retain more – so there are fewer [orphans] on the streets.'

In Homa Bay, service providers and chiefs are more positive about the impact of the Programme, and suggest that households are now more willing to foster orphans and retain them; also, the cash prevents marriages taking place so early. Their assessment of renewed enthusiasm for fostering and retaining orphans tallies with the reports from carers and non-recipients in Homa Bay. Unlike the community members, however, teachers, health workers and chiefs argue that households where the Programme is running are now willing to take on additional orphans – perhaps from relatives where the Programme is not running. The extent of this is not clear, but it seems possible that this fostering may not reduce the number of children living outside households, but merely changes the distribution of orphans between households in the same family.

Economic impacts

Cash transfer Programmes can have positive economic impacts when recipients set up new businesses, invest in more productive (possibly higher-risk) enterprises, employ others or spend more (generating multiplier effects). Programme-related inflation is the major negative potential economic impact.

The baseline found few examples of households investing the transfer, partly because recipients believed the transfer to be for children, and partly because the value was considered too low to invest. Some (slightly better-off) recipients invested in livestock or in small trading businesses, but most did not report this, although Programme staff felt it might be sensible to invest and train people in income generation. For similar reasons, Programme-related inflation was not detected, except for small price spikes on pay days.

⁶⁰ Teacher, Msambweni, Kwale.

Follow-up findings were similar. Interviewees in both rural communities (Kwale and Homa Bay) referred to the multiplier impact of the large amounts of money coming into the communities. They argued that the Ksh 600,000 to Ksh 1,000,000 (for 200 or 300 recipient households) coming into locations had positive impacts on markets and businesses. These impacts were not enormously evident to researchers, but they did not attempt a full multiplier study. However, some households have started businesses. Children in Kwale reported that 'my mother started a business and we are still feeding on it'. Interviewees in Kwale and Nairobi also noted that recipients were setting up small businesses and buying livestock, but most respondents (whether community members or Programme staff) felt that more training on income generation would help recipients to make the transfer last longer. In Homa Bay, this was reported less, probably because its more remote location made setting up profitable businesses much more difficult, as markets were smaller and transport costs higher.

The Programme also contributed to loosening credit markets, which had further labour market impacts, as non-recipients reported that recipients would employ them before the transfer came, knowing that they would be able to pay them when it arrived. The transfer has also eased credit constraints on other goods and services. As non-recipients in Nairobi note, 'for those who pay rent, now they are able to convince the landlord to wait for the time that they get the cash. Even sometimes when they are borrowing money, they have assurance of returning the money.'

Again, inflationary effects were not detected, although respondents in a remote part of Homa Bay noted that those transporting them to the post office to collect their payments had raised their prices, since they had a monopoly.

Impacts on women

Most Programme recipients are female (since most caregivers are female), but the effects of the Programme on women were not captured to a great extent in the quantitative survey or qualitative baseline (except to note that since most recipients were single females, the impacts on their positions their households were negligible). The follow up therefore explored:

1. Whether female recipients of the transfer and children feel more confident in dealing with other institutions:
 - Representatives of the government (schools, health centres, chiefs, post offices, and so on);
 - NGOs;
 - Knowledge about government schemes and activities; and
 - Other members of the community;
2. Whether widow inheritance has reduced as a result of the transfer.

Confidence

Community members did not report changes in their relationship with members of the Provincial Administration (such as chiefs) or district administration, or greater knowledge about other NGO schemes. In Kwale, recipients reported that they had never seen the chief or DCO visit the transfer Programme. In Homa Bay, children felt that the government was rarely involved in grass-roots initiatives, but NGOs were and therefore this Programme was probably an NGO Programme. In Nairobi, recipients made no mention of improved relationships with the government, although the DCO claimed (not particularly convincingly) that the recipients feel more confident to go to the chief's and DCO's offices. While

community members may feel able to visit one responsible person about the Programme, since this person was the contact for activities before the Programme, the Programme was not typically perceived as improving relationships with the government.

Probably because of this, the Programme did not have any impact on respondents' knowledge about the other schemes and services the government was offering: no respondents mentioned this. Moreover, aside from the children in Homa Bay, no respondents associated the Programme with NGOs, and none reported any change in their relations with NGOs.

However, it is true that many community members have greater confidence with government service providers as a result of the cash transfers. In particular, relationships with teachers improved because recipients were able to obtain education on credit, and children are treated better because, now that they can pay, the teachers no longer view their parents as a burden on the school. Children reported that they went to school more frequently. Similarly, respondents felt more confident in hospitals, since they now have the money to pay for services there. No respondents reported any change in their relationships with the post office.

Respondents noted some positive and negative changes in relationships with other members of the community. As also noted in the baseline study, recipients felt that non-recipients were often jealous, and this worsened their relationships. In Kwale, carers felt that 'some [non-recipients] get angry and jealous and you can tell this in the way they talk to you, but this doesn't cause any particular problems. [However], other members of the community no longer help you.' In Nairobi, carers felt that they no longer borrowed from their neighbours, but this was perceived as a positive change – a reduction in dependency. In Homa Bay, carers felt that OVCs were treated more equally by other children after receiving the transfer, and looked and felt much cleaner and healthier. Similarly, teachers in Kwale felt that there were no differences between children in receiving households and those in households not receiving the transfer

Widow inheritance

Of the three areas studied, widow inheritance – when a male relative (usually a brother) inherits the widow and children of his deceased relative – is practised only in Homa Bay. While there are perceived benefits from widow inheritance for the widow and man, since many widows lose their husbands to AIDS-related illnesses, the practice carries obvious risks for further spreading AIDS. The Programme might be expected to reduce widow inheritance by encouraging grandparents to look after these families, or by allowing the widow to survive alone. On the other hand, widows might become more attractive to potential inheritors if they brought with them additional resources from the transfer.

In Homa Bay, female respondents reported feeling more confident, and this allowed them to choose not to be inherited. As carers put it:

The issue of wife inheritance has really reduced since the Programme started because most of the young widows who were facing problems took part in the OVC cash transfer programmes that have enabled most of them to be able to care for themselves and their orphans, hence saw no need of being inherited.

Widows will not necessarily return to their parents, since they typically move away from their original village when they marry.

However, non-recipients attribute the reduction in the practice to Christianity and awareness around HIV, rather than the Programme. This suggests, not surprisingly, that changes in this practice are more complicated than could be attributed to a single factor, but that the Programme is playing a positive, rather than negative, role in reducing widow inheritance.

Targeting

The baseline survey explored inclusion and exclusion errors in the targeting process. It found that inclusion errors were perceived to be low, but exclusion errors were seen to be higher as the Programme staff responsible for targeting (the LOC members) did not know where all OVC households were, and the community *baraza* did not function as a serious method of updating the list of selected households. Moreover, the level of dynamic exclusion errors (exclusion errors introduced over time) was considered to be high, as new OVC households were steadily created, especially in areas of high HIV prevalence. This motivated a recommendation to update targeting annually with community validation.

The follow-up explored operational aspects of targeting, asking whether specified procedures were adhered to, and what were the consequences of deviation from them.⁶¹ In theory, the targeting should have included the following main steps:

1. Elect LOC and chairperson in community *baraza*;
2. LOC members' enumerate Form 1, gathering data on all OVC households;
3. Computer screens out ineligible, identifies ambiguous cases, and produces list of households eligible for Form 2;
4. Enumerators complete Form 2 with eligible households, with LOC members' assistance;
5. Computer screens out ineligible, identifies ambiguous cases, and produces list of households eligible for payment, ranked;
6. Community discusses list of eligible households, adds, removes, and changes ranking at *baraza* to produce final list of recipients; and
7. Final recipients are enrolled.

This entire process was not followed precisely in any case. Rather, there was variation at each step in each community. This did not imply significant complaints about targeting (although there were some), but does suggest room for improvement in scaling up. We consider each step in turn.

Election of the Location OVC Committee

Most community members recall a public meeting where the LOC members were selected, but those in Nairobi or Nyanza did not feel that they had a very active role in their selection. In Kwale, recipients recalled electing the LOC members, when asked whether they were happy with the selection, said 'we were the ones who selected [them], so why not?' In Nairobi, neither recipients nor non-recipients felt they were involved in selection. In Homa Bay, recipients felt that the chief selected the LOC members on the basis of their education, standing in the community, their understanding of people's issues and their honesty. 'The person who was supposed to be elected should have been a mother, a mother who understands what it is like for a child who was an orphan going through because she underwent the pain of labour; she understands this more than a man.' Non-recipients felt that the village elders were in charge of this process. However, neither group in Homa Bay expressed dissatisfaction at those selected.

⁶¹ With the important caveat that the targeting processes had taken place several years ago in these communities, so recollections were not perfect.

These reports were confirmed by the understanding of the Programme officials in each district. In Kwale, the DCO and others were clear that the LOCs should be elected in a public *baraza*, subject to guidelines setting out their preferred qualifications. In Nairobi, however, the DCO felt that the LOCs were selected by the chief – again, on the basis of these qualifications. LOC members confirmed they were selected by the chief, or ‘automatically’ because of their position in the community (e.g. as volunteer children’s officer). In Homa Bay, the chief felt that he needed more guidance in selecting the LOCs – more clarity on their qualifications, experience and expected role. At the level of the administration (but not the community), there was some debate as to whether LOC members should include politicians, and it was decided they should not. However, the community was not involved in this.

Enumeration of Form 1

In every case, LOC members performed the initial selection of OVC households. Typically, they used the village elders to find these households in their villages, and there were few complaints of unwarranted inclusions (unsurprisingly, as these could later have been ruled out). While this process went fairly smoothly in Kwale and reasonably well in Nairobi, respondents in Homa Bay complained about the lack of coverage of this process – that, largely due to the difficulty of the task, the LOCs were unable to find all households containing OVCs. This was a significant problem, because households missed at this stage were rarely added to the list later, principally because the community *baraza* did not function as a forum to include additional households.

In Kwale, no respondents complained about significant errors at this stage, probably because communities were relatively small or familiar with each other. In Nairobi, where the population was much larger, some LOC members reported using a random walk to find households containing OVCs, implying possible exclusion errors. In Homa Bay, the large area and scattered population meant that some households were unknown to LOC members, and the belief of administrators and LOCs in a quota meant that more remote areas were not covered, causing exclusions. The short duration of this selection (two weeks) combined with its timing in the rainy season and reliance on walking, and shortages of enumeration forms, meant that some areas were probably missed, according to staff. LOC members relied on village elders to identify households containing OVCs, rather than going house-to-house. In one case, the chief felt that LOC members probably wrote lists of their own families. Moreover, the chief was told that cash shortages meant that they should focus on households containing orphans only, rather than vulnerable children. Non-recipients reported one case where a carer was away during selection and could not be enumerated, and was not selected.

Enumeration of Form 2

After the computer process (which was beyond the scope of this review), enumerators recruited by the LOCs and local administration, but not from the immediate local area, visited each eligible house to gather further information on their socio-economic status. Respondents in Kwale and Nairobi recalled people from outside the area asking them further questions at this stage although, in one location in Homa Bay, the LOC members also acted as enumerators. In any case, LOCs in each area travelled with the enumerators to show them the households and, in at least one case in Kwale (but quite possibly elsewhere), entered houses to help enumerated households answer the questions. It is not clear that this double role by LOC members would have affected targeting in any way; there is no evidence to suppose that entering households or standing outside led to greater inclusion or exclusion; and it is difficult to see how enumerators would have found these households without this help. However, the active role of the LOC members at this stage may have contributed to a

perception from non-recipients that there were certain privileged families with preferential access to the Programme.

Community *baraza* to validate list

In each area, meetings were held to announce the list of selected names. However, these *barazas* were not found to include much debate about the list. Those not selected often complained, directly to LOCs or chiefs, but no one was identified who was added to the list of recipients at this stage. Since appeals forms were not known to anyone (community members or Programme staff), there are no records of the complaints at this stage. Indeed, some Programme staff felt that appeals forms would have led to everyone complaining and would have been unfeasible.

As was found in the baseline survey, those not selected were told that the computer had selected the final list and nothing could be done. Some non-recipients were unhappy about this, although unable to do anything about it:

I did not hear of a *baraza*. I'm not sure I believed them that the computer was responsible. The person responsible said there is nothing else she can do. Yes, I think this computer was very unwise like a person because it just selected those who are able and left those who are not. There was very bad corruption. They should have asked the community – then there would not have been corruption. The guide influenced the process.⁶²

In Kwale, non-recipients were more philosophical and accepting of the computer's decisions, and were happy to wait for the 'next targeting process', which they were assured would take place. In Homa Bay, recipients remembered a meeting where names were read out, but could not recall any discussion, and non-recipients were clear that there was no participation in the finalisation of the list of names.

Interestingly, in contrast with communities' perceptions, Programme staff reported that *barazas* had taken place in which the entire community commented on the list of recipients. In each of the areas, chiefs and DCOs were able to describe in detail the process of reading out names and verifying them in front of the community. Programme staff in Nairobi and at UNICEF also recall these meetings. It seems likely that these meetings took place, but that the real degree of participation was far less than those holding the meetings supposed it to be. This is not unique to the OVC Programme. Ensuring active participation of marginalised groups in these meetings is challenging, and creative solutions need to be deployed. Merely reading names in front of a large group is not enough: marginalised and socially excluded individuals will lack the confidence to challenge authority, to complain publicly or to invalidate the selection of someone else, especially more powerful, in the community. The scaled up Programme could consider a more systematic approach to this meeting where the community is split into smaller groups to validate the list separately (rather than in a plenary discussion), and/or where people are selected at random (e.g. by spinning a pen) to raise issues.

The poor validation function of these meetings poses problems most significantly for exclusion – when households were not selected by the LOCs in the original enumeration of Form 1 and then cannot re-enter the list at this stage, as intended in design. In any case, entry at this stage is problematic, because it implies the exit of another household; few communities are willing to agree to this, especially when the selection appears to have been

⁶² Non-recipients, Nairobi.

made by computer in Nairobi. Indeed, most respondents accepted the computer selection – and the promise of possible selection in a supposed future expansion of the Programme – as fair. As noted, there were no appeal forms available with which to challenge this.

Additional concerns on targeting

A number of isolated difficulties with targeting were reported anecdotally, and are worth presenting.

First, there was, in some cases (certainly Nairobi), a significant delay between targeting and payments, which confused both Programme staff and recipients. A fixed timeframe for this process would help both staff and recipients to plan better.

Second, some non-recipients were never told why they were not selected, and clung to a frustrating belief that they might be included. Clear, honest and transparent feedback on the selection process and future targeting processes would be fairer and would help planning.

Third, registry officials reported in Nyanza that men inheriting widows and their families will try to register orphans with both wives, and will try to register as orphans any children he has with the widow. This could cause double enrolment for these households, thereby excluding others.

Payments

The baseline fieldwork noted that the payment system worked well, aside from some problems, largely for households living in villages far from post offices, and some concerns about security resulting from public announcements of pay days. The follow-up explored in greater detail how people are informed about payments, whether further problems have arisen since the baseline survey and how they are dealt with, and whether recipients use post offices for other services.

How are recipients told about payments, and how this can be improved?

Typically, recipients do not know when payments are coming, despite their regularity. A variety of methods are therefore employed to inform them, with varying success. In Kwale and Nairobi, recipients were informed about the transfers either through a *baraza* called by the chief or through word of mouth: the DCO would inform the local person concerned with the Programme (whether a chief, LOC member or volunteer), and they would tell other people in the community and ask them to spread the word to recipients. In some cases, recipients would pass by the post office and find out the dates. These techniques are not perfect: an LOC member in Nairobi noted the difficulties when people move, and described how one carer had been hospitalised for four months and was untraceable.

In Homa Bay, however, recipients are informed about the transfer publicly by an announcement in the market place or through 'Radio Ramogi ... this is where the announcement is made and people who have radios inform the others who do not have them; so that is how we learn about the arrival of the funds. It is not helpful: through the radio everyone receives information that you are going to receive the transfer, hence an opportunity for robbers to use this day to carry out the robbery, so it becomes risky.'⁶³ Although the chief was supportive of this method, recipients prefer a more personal approach, ideally a list of dates at the post office (which they say used to be there but was subsequently taken down), with little variation in the pay days.

⁶³ Carers, Homa bay.

Have problems arisen in collecting payments since the baseline survey?

As found in the baseline survey, problems with payments are very few and are easily resolved. In Kwale, recipients and post office staff report there previously having been queues, but now that recipients know they do not all need to collect the money on Monday, and they are developing further trust in the transfer: they can collect it any day of the week, either walking to the post office or spending Ksh 20 on travel. In Nairobi, recipients reported that the post office is always open and that transport costs Ksh 50. In both cases, if the caregivers are indisposed they can send a named representative with identification. In Homa Bay, the recipients also report that the post office is never closed, and the staff treat them well, but they do sometimes face very long queues (from 10 am to 5 pm), which leads to some security problems.

Despite this generally positive picture, however, there are small problems in payments that continue to arise, and some more concerning structural problems. Small difficulties with the delivery of money to post offices sometimes arise in each area, leading to short delays (of a few hours) in payments to recipients while money is released from head offices. This is usually addressed swiftly, especially as the local person concerned with the Programme typically intervenes. Small isolated problems of being unable to collect the money exist, but are typically rectified through interventions by Programme staff. In Homa Bay, for instance, a caregiver was unable to collect the transfer on one occasion because she was caring for an ill relative and, on returning to the post office, she was refused the amount. The chief wrote a letter on her behalf, and the next time she was able to collect both transfers in full.

In one case in Homa Bay, possible fraud was detected (deducting Ksh 1,000 from the transfer amount), but this occurred only once. On pay days, a special desk was placed outside the post office where recipients would register against the typed list, which recipients signed, and were given a handwritten slip that is signed by post office staff. They then collected the money from inside the post office by handing over this handwritten slip. At one point, some people were deducted money but being made to sign against Ksh 3,000 when only paid Ksh 2,000, and they had not failed to meet Programme conditions. One man asked why he was signing against Ksh 3,000 when being given Ksh 2,000, and the post office took the Ksh 2,000 slip back, 'told me that "old man you think you are so brave" and they gave the entire amount to me',⁶⁴ with a Ksh 3,000 slip instead. This was reported by recipients to the chief, who spoke to post office staff and ended the problem immediately.

More structural problems do, however, exist. First, recipients from remote areas still need to expend significant amounts on collecting payments. Of the locations visited, this was particularly significant in Homa Bay, where recipients would either walk five hours or spend Ksh 600 on motorbike transport for the return journey, rising to Ksh 800 as the drivers realised their monopoly position. This is a significant cost relative to the value of the transfer. The high cost or time of travel means that any problems with the payment process take on a much higher significance than in locations where post offices are closer.

Second, recipients are not told when they are exited from the Programme or deducted money: this can cause confusion and upset, and a belief that their money has been stolen. In Kwale, recipients reported sometimes receiving less than Ksh 3,000 and, on asking why this was, they were sometimes not answered.⁶⁵ Post office staff reported that they struggled to explain this and would refer to Programme staff. The DCO and LOC chairman confirmed this, arguing that it is not the mandate of the post office staff to explain the Programme to

⁶⁴ Carers, Homa Bay.

⁶⁵ Sometimes they were told the penalty was to do with compliance with conditions, see below.

recipients. The LOC chairman reported that recipients sometimes blamed him for their deductions, as he was the person responsible for the Programme in the location. He called on the DCO to dispel this feeling, but it was impossible to avoid it completely. Deductions did not occur in Nairobi (where penalties are not imposed, and where the post office is particularly effective), but there were problems because recipients who exited the Programme were not told in advance. Discovering this at the post office, they would complain to the staff and to LOC members, who were also unsure about the reason for exit and could only write to the DCO for clarification, which was often not forthcoming.

Third, recipients are not typically able easily to transfer the post offices from which they collect their money. In Homa Bay, recipients reported being afraid to try to change to a nearer and more convenient post office, because they had heard of someone else trying to change who spent considerable amounts of time and money to go through the process. The latter two problems could be addressed through better communication from the Programme through the local representative concerned with the Programme.

Fourth, people who do not have their national identity card or Programme identity card face additional problems, and solutions to this problem have introduced loopholes into the collection system. Elderly people without identity cards or with old identity cards sometimes arrive at the post office and are required to return to the chief to obtain a confirmation letter, which the chief gives. This is time-consuming, and a slightly risky system, in that it encourages post offices to trust chiefs' letters rather than Programme identity cards: on one occasion, an assistant chief gave a letter to the wrong person, who collected the money in place of the real recipient. On some occasions in Homa Bay, elderly recipients' families used their national identity card to collect the money from the post office. On the other hand, child-headed households in Homa Bay that do not have national identity cards, need to collect a verification letter from the chief each time they visit the post office (since the letter is taken by the post office each time), which is time consuming both for the households and the chief. They are not always able to collect the necessary abstract from the chief or police station because they do not always feel comfortable talking with these figures in authority. In Kwale, there were some problems because people could not remember the names they had given out during registration, and the names on the Programme identity card did not match those on their national identity card. These problems were eventually rectified with the chairman's intervention. In Nairobi, similarly, names on the list at the post office might not correspond with the national identity card name, and the LOC member would have to write to the DCO to ask the post office to pay the recipient.

These problems are typically fairly easily addressed, and the research team did not hear of long-running difficulties. However, their solution often involves significant effort from the chief, LOC members, DCO or other concerned person, who are not remunerated for this work or reimbursed for the phone and transport expenses incurred, which is beginning to affect their motivation.

Are recipients using other services offered by post offices?

No recipient reported using other services at the post office (although small numbers did in baseline survey). However, post office staff interviewed expressed willingness to collaborate with the Programme on supporting clinics or other sessions around the payments process.

Case management

The follow-up explored, in greater detail than the baseline survey, how Programme staff and recipients together manage updates to the status of recipients (changes in address, school, number of children, and so on), and deal with complaints and issues raised by recipients.

The research tested the systems in place for managing updates, and whether recipients and non-recipients feel they can communicate with the Programme when they have problems or questions. Generally, it found that there was a single person most responsible for the Programme at the local level, and recipients (but not always non-recipients) were often comfortable talking to this person; however, he or she did not always know how to manage updates, or realise the importance of doing so. This person may or may not refer individual cases to the DCO, depending on their ability to solve problems. Some concerned individuals are more activist than others – gathering information on recipients' behaviour and use of the transfer, and making recommendations on changing named caregivers or on stopping the transfer.

In each area, recipients were unsure of how to inform the Programme about changes to their status, and were not aware of forms for this process. In Kwale, they were aware of the importance of telling the Programme about additional children; in Nairobi and Homa Bay, this did not seem to be the case. The local representative in each area confirmed that recipients did not inform them of updates to their school status, and felt that they had to be fairly activist in order to update the Programme with changes to recipients' status – by discovering about these changes through research and writing to the DCO. These individuals felt that others involved with the Programme, such as other LOC members, could be involved more in these updates. However, with the voluntary nature of these posts, there seems little guarantee that this activism and level of ability will be sustained, especially in cases where the individuals who initially received training move or lose interest. In Homa Bay, for example, the chief and LOC members concerned with the Programme lacked motivation to pursue updates. In Nairobi, the lack of payment also poses problems, although the system works better.

Other individuals operating in the Programme structure also struggle with supporting the case management process. Health centre workers and teachers, who could inform recipients about the importance of updating the Programme when changes are made, have not been trained (or, if training had taken place, staff turnover meant that new staff were not trained), and so are unsure how to support this process.

These individuals are also aware of a need to register births by obtaining birth certificates. This is important for the Programme and the recipients, since it allows the Programme to update the household roster with new children, enabling them to stay in the Programme for longer. It is also important for schooling, as birth certificates are required in order to enter class 1. This is, together with the requirement that children attend basic school, an area where the Programme has good synergies with the education system in terms of its requirements. It seems, in most communities, that households are slowly recognising the importance of registering births, but this is by no means universal and not necessarily always well-integrated with other systems. In Homa Bay, for instance, the registry office suggests that there are more children according to the OVC Programme than according to registry records, which suggests that the normal process of registering births and then informing the Programme is being bypassed.

There are some additional case management challenges that come from inaccuracies in the targeting process. We have already noted difficulties with payments arising when names are written incorrectly during targeting. Programme staff also noted difficulties when ages were incorrectly given, since this might mean that households exit the Programme while their children are aged under 17 years. In cases where this happens, the concerned individual in the villages can write to the DCO, but the DCOs do not feel empowered to bring a wrongly exited household back the Programme. As the DCO in Homa Bay puts it, 'I am a dog without teeth' – he knows there are problems, but there is not very much he can do about it, so people will still have problems.

Case management is also complicated by the lack of clear structures for managing the Programme. In some cases, the concerned individual does not feel able to deal with problems presented, whether through lack of knowledge or impotence. Part of the difficulty is the lack of clear structures and processes for dealing with problems – it is unclear to both staff and recipients who they should contact with problems, and each area has evolved its own method of resolving this. In many cases, it is apparent that the DCO has ultimate responsibility and ability to address problems, but access to the DCO is almost always mediated through a local person, who may or may not know how or whether to refer a particular problem, since DCOs are perceived by recipients to be remote, both geographically and psychologically (as people lack the confidence to present problems to the DCO).

One of the most significant impacts the local representative has on the Programme is around identifying and dealing with caregivers who are misusing the money, and recommending to the DCO that this person be changed for another caregiver. These cases require that the local representative knows the situation well, and has good relations with and is trusted by the DCO. In Kwale, for instance, the children's officer notes that they (in this case, the chief) can recommend a replacement caregiver when someone is misusing the money:

We have actually dealt with cases where people misuse the money and they are actually getting finished. If there is [any problem of misuse] they are very few which have not been reported. When we see such a scenario we normally change the caregiver with immediate effect so that we find the next alternative, the best alternative person who can receive the money and use it in the correct way. It is the chief. Even making changes, it is the chief. We have to demand a letter from the chief to change a caregiver. So you see the chief even knows better than we do in the office, because they are his people.

In Nairobi, the LOC member confirms this activism, and the team interviewed a household whose caregiver had been changed (see Box B.1).

Box B.1 Replacing recipient caregivers: Examples

Example 1

The household contains a grandmother and grandfather, looking after their orphaned grandchildren, but also containing the grandfather's son by his other (deceased) wife, and his son's wife and their children. The grandfather was supposed to be collecting the transfer for two families, and distributing between them both. However, there was a commotion because the children were not receiving the money as expected. The grandfather's daughter-in-law reported the case to the local representative (the LOC secretary) and together they reported the case to the chief, who informed the DCO. No one came to follow up at the household, except for the secretary. But, eventually, the daughter-in-law was asked to visit the DCO's office and the Programme card was changed to her name. The secretary was able to tell the grandfather not to collect the money, which he has subsequently forgotten about. According to the daughter-in-law, since then there have been no problems, and the rest of the family do not discuss the transfer with the grandfather.

This problem had a satisfactory resolution, but the general principle is perhaps concerning, since the name of the caregiver was changed purely on the basis of testimony from the LOC secretary, with apparently no further corroboration. In this case, there are no questions as to the excellent motives of the secretary; however, in other cases, a system with such flexibility may facilitate the defrauding of (particularly elderly) recipients by other family members and senior village officials.

Example 2

'The one that was taking the money for his mother. We went there but the mother that was staying with the children could not see them ... She was too old. About 85 years old. She was blind and could not see them. She had an elder son whom we had registered to collect cash. Then we later discovered that, after taking the Ksh 3,000, he went and bought one kilo of sugar and a packet of flour, and would not appear till the following month. And when we went to check on that mother, even the house was falling down and the children were following me. They were saying they do not have uniforms and our uncle is taking the money and we don't know where he has taken it. I investigated and found it was true. I went to that mother when she was still alive and she told me that it was true that, after she had received the sugar and flour, the son never came again. We then asked where he stayed and were told he stays at We informed the chief and we had to look for that person and asked him to hand over the post office card. He refused to give it to us and said it was lost. I went to the post office and searched for his name and found that number too. I told the person at the post office not to give money to that person any more. I had to talk to the DCO to see what would happen. Then I told the DCO and he said it was fine. He should not be given the money, but the money should be given to the other person staying with the children. I did so and now the children are continuing with a good life and I do go to check on them all the time after every week and they are doing well. I go to school and at their home to check on them' (LOC member, Kwale).

Staff roles, knowledge and support

The baseline study found challenges in communications between the Programme and recipients, and recommended supporting LOC members to carry out a greater number of case management activities by providing them with bicycles. The follow-up explored in further detail the roles, capabilities and support given to key Programme staff, examining how the Programme is implemented in communities and the different roles individuals play in this.

The follow-up research suggests that the Programme is reliant on one or two committed volunteers in each location, all of different status: an LOC secretary in Nairobi, an LOC chairman in Kwale, and a chief in Homa Bay. These individuals carry out a range of Programme functions, including targeting, case management, monitoring payments, checking compliance with conditions and providing complementary services. The LOC are particularly active during targeting, when they have a formal specified role and some remuneration for expenses but, following this, many members cease being active while the Programme is running, because they have a much less clearly defined role, no remuneration, and can rely on others to carry out the work.

In some cases, LOC members continue to fulfil an important function, but usually their role has been taken on by single key individuals. Recipients in Kwale note that the LOC members are 'doing their job well', and this includes telling them when the money comes in, following up on villagers' issues, visiting schools, and checking and resolving problems. In Nairobi, children report that the LOC secretary is 'known and comes to houses to check whether people are ok and whether they are sick', but this may also be in her capacity as the community health worker and volunteer children's officer: and other LOC members are not mentioned. In Homa Bay, recipients report being comfortable talking to all Programme staff, but find that the LOC members do not 'always solve the problems we have. The people who help us solve are either the chief or the DCO.' Another recipient in Homa Bay said that 'I do contact [the LOC members] at times, but the people who I closely go to when I have a problem are the chief, the teachers and the nurses, these are people I consult on issues [pertaining to the child's well-being] because they also show interest in knowing the well-being of the children we are taking care of.' The knowledge of LOC members varies similarly – with those regularly involved in the running of the Programme knowing Programme objectives and mechanisms in great detail, but those less frequently involved knowing very little about the Programme.

Other individuals play varying roles with varying degrees of enthusiasm. In Nairobi and Homa Bay, chiefs play central roles in the Programme, writing letters confirming the identity of recipients for post office officials and police posts, intervening in disputes, following up misuse, and dealing with conditions, penalties and payments. However, this is largely a feature of the individual concerned: a replacement chief in Nairobi has not played this role at all. Also problematic, of course, is the fact that staff turnover means that new staff are often not trained about the Programme, and their roles and responsibilities.

DCOs play a significant role, and the Programme takes up a large proportion of their time – 75 per cent, according to one respondent. They have ultimate responsibility for most aspects of Programme decisions within their district, including changing caregivers, facilitating payments, and reporting compliance with conditions. They report to Nairobi and deliver information to villages through the local representative. As with other roles, the DCO's ability to play this role is strongly affected by whether they were trained, and staff turnover generates significant problems in this regard.

The DOSC in most locations was reasonably active during targeting in the management of the selection of the LOCs, but subsequently played a peripheral role, and many DOSC members interviewed had a fairly vague notion of the Programme. LOCs do not report knowing much about the DOSCs and, although DOSCs may have regular meetings, their members have other roles in health and education departments, and are not in a position to continue to oversee the Programme. This responsibility falls on the DCO or a nominated Children's Officer.

These key individuals at the village level are volunteers, in the sense that they are not remunerated for their work and, like many volunteers, lack clear terms of reference. The absence of formal remuneration probably means that volunteers seek – and are given – informal remuneration, which is probably less efficient than formal pay because it diverts resources from other intended recipients of the Programme. District officials refer to the payment of ‘lunch’ (a *per diem* given towards costs) in each area for volunteers and salaried staff who support *barazas*, targeting, or other ‘fieldwork’. This lunch, reported at Ksh 400 per day in Nairobi and Ksh 200 in Kwale, becomes the salary for volunteers, together with informal access to other resources, such as food aid.

This is not to say that these key volunteers are not motivated by altruism; all three reported this as a motive for their work. However, while altruism may be sufficient motivation for some if they are able to secure a livelihood elsewhere, it clearly has not been sufficient motivation for other members of the Programme staff and volunteers. For example, other LOC members and CT-OVC officers at schools and health facilities with responsibility for completing the compliance forms cite the absence of payment as a clear demotivator; and, in practice, they often do relatively little unless directly asked.

In some cases, the absence of payment for these individuals limits what they can achieve for the Programme. Expending their own money for communication and transport, they are unable to follow up as quickly as they might on issues with the DCO or in villages, and cannot inform many recipients about payments, updates, or changes, having instead to rely on their networks. Moreover, these single individuals are limited by the size and population of their location. Having some formal remuneration might enable them to reimburse individuals who help communicate the information and improve the coverage offered. The Homa Bay, Kwale and Nairobi DCOs were clear that the LOC members need some motivation. Even recipients acknowledged that the LOC members were entitled to some payment.⁶⁶ The individuals themselves remarked that they do not need pay, but that motivation (i.e. covering expenses plus a little extra) would help. In Nairobi, for instance, transport costs for the secretary are reportedly more than Ksh 50 per day (which would equal Ksh 3,000 every two months – the value of a transfer).

Conditions

In the Programme design, conditions with penalties are enforced in some Programme areas in order to assess the impact of penalising recipients who do not send children to schools and clinics on children’s outcomes. However, the baseline qualitative research and anecdotal evidence indicated that ‘there is little practical difference between areas where conditions are supposed to be enforced and areas where they are not’, principally because members of the administration were telling community members to send their children to school and clinics whether or not Programme penalties were imposed, and punishing non-attendance at basic school (as this is against the law under the new free and compulsory basic education system). It was, thus, not obvious that the quantitative research would find significant differences between these locations as a result of Programme penalties. The follow-up qualitative survey re-examined this issue, and assessed the administrative mechanisms supporting monitoring and enforcing conditions.

It seemed possible that the implementation of conditions with penalties had improved over the previous year, and awareness had improved as a greater number of households received penalties for non-compliance. This was found to be true; households were often aware of penalties, and some had been imposed. However, many recipients did not know

⁶⁶ Carers, Homa Bay.

why they had been penalised, and were more acutely aware of penalties coming from the chiefs in the provincial administration rather than the Programme. Moreover, the administrative mechanisms supporting the monitoring of compliance with conditions need far greater support than they are currently given, both in terms of staff training and resources. The current system permits significant deviations from the design, a flexibility that is probably appreciated by recipients but which means that conditions with penalties would tend to have less impact than might otherwise be the case.

Are recipients told about conditions?

Formally, Programme recipients who do not comply with conditions face deductions from their transfers in Kwale and Homa Bay (and other parts of Nairobi not covered by this study). In both districts, penalties have been imposed on some households. In Kwale, carers knew the specific conditions (monthly visits to the clinic and attendance at basic school) but, in Homa Bay, most recipients were much more vague, stating that children should go to school (but thinking it was for basic and secondary levels), that they should take them to health centres when they fall sick, and that the money should be spent on the children. They were aware that failure to meet these responsibilities would lead to penalties. In Homa Bay, the chief notes that penalties were applied, but suggests that they are becoming less frequent. In Nairobi, however, recipients also felt that 'if you don't take your children to school or to the clinic (for those aged under 5 years) you will answer to that', suggesting that the difference in awareness between penalty and non-penalty areas may not be very large. Moreover, in other locations in Kwale where penalties are not applied, the DCO notes that 'They have no conditions but that does not mean we don't push them. It's only that we don't do the tedious job of checking files and records but we don't analyse them. For me those conditions are a responsibility whether you give them money or not.'

Recipients also note the administrative machinery backing up this threat. In Kwale, compliance with conditions is enforced more effectively in basic schools than in health centres. Recipients in Kwale note that the teacher monitors children and tells you if they do not come; they also 'think that there is a list that is filled out and they can check on this. In hospitals they say they do not know about this, and sisters say they have not received any forms and know nothing about the project'. In Homa Bay, recipients are aware of forms being filled out at schools and health centres. Programme staff in Homa Bay and Kwale report informing recipients about conditions during *barazas* and through individuals in the LOCs. In Nairobi, a LOC member makes the small distinction clear: 'We are not implementing conditions [penalties] but I have informed them about the conditions – you should take the child to hospital for immunisation below five years, you should take child to school above five years, and you should get a birth certificate for the kid.'

Generally, recipients feel that conditions are reasonable, and children in Homa Bay report that 'conditions are a good thing as they ensure carers feed and take care of us'. However, when asked to estimate the total annual cost of sending children to basic school, groups consistently put the figure up to Ksh 3,000 per child per term, excluding the fees, which are free. Thus, while the transfer covers this for up to two children (a transfer of Ksh 3,000 every two months implies Ksh 6,000 per term, which is the cost of basic schooling for two children for a term), larger families still face a financial cost of meeting education conditions.

Monitoring and enforcement mechanisms

In practice, however, the administrative mechanisms behind monitoring and enforcing conditions are not applied everywhere. Overall, the system is implemented relatively informally, with latitude taken by staff at various levels to decide whether recipients not meeting conditions should be penalised. One aspect of this informality is the lack of fixed

provision for the deposit and collection of forms, and for ensuring that they are filled out correctly. In Homa Bay, the chief collects and deposits forms, ensuring that they are properly filled in (as he sees fit), whereas in Kwale, the DCO's office deposits and collects the forms, and this limits the range of centres they can visit and the amount of following up they can undertake.

The most significant problems arise in hospitals, particularly in Kwale, and are recognised by the district staff. The problem arises from different angles. First, recipients rarely attend health clinics regularly – partly, because they have not had this impressed upon them and, partly, because they feel that can meet the conditions and take care of their children by taking them to health providers when they are ill. This has the implication, second, that they do not always attend the same health provider, which makes monitoring the regularity of their health attendance extremely complex without an integrated health records system. Third, this problem is exacerbated by attempts by the Ministry of Health to improve health attendance through mobile clinics and community health workers who can deliver services in villages, thereby removing the need for the costly and time-consuming visits to hospitals or health centres that often put people off from attending health services. A Children's Officer in Kwale sets this out clearly:

Since the catchment area for Msambweni Hospital is so large, they have decided a way of reaching the many children is in the villages, which are far from the hospital, so some people among the poor population may not have money to access that hospital ... because of distance and other constraints. So they may ignore the hospital, or they may not be able to bring their children to the hospitals. So the hospital administration and the public health teams have organised themselves in a way that they reach their customers in the villages. So they have centres in the village where they liaise with the community health workers, who help them do some functions in the villages like weight measuring. These are mobile clinics, and so again we have not given that list to those various centres, because we also don't know where they operate. They are not stationed somewhere, but they keep moving from place to place. So, at the end of the day, our beneficiaries are not reached. You see they know they have to go to the dispensary at Msambweni District Hospital to be registered there but you see the services are going on in the villages.

In Homa Bay, monitoring had been complicated by the opening of another health centre, because transferring centres was a problem, according to health centre workers. Moreover, they suggest that, since people only come to health clinics when someone is ill, there is no guarantee they will not go straight to the hospital.

Furthermore, health centre workers have very low incentives to fill out the forms correctly when recipients do not arrive as required. Some believe that penalising recipients is not helpful, and do not perceive such enormous benefits in growth monitoring (although there is greater enthusiasm about vaccination); thus, they are not inclined to participate actively in penalising those who do not attend monitoring regularly. They are reasonably content if children come to the hospital for immunisation (which is largely the case) and are then weighed in villages, or not at all; (at least, this is not a priority for them. As a health worker in Kwale puts it, conditions:

Should be emphasised but not penalised. Because actually by penalising you are worsening the situation. You are not giving them support. And these are people you have identified since they are poor; they need help. You see?

Taking that kind of action of giving them aid, then you've tried to improve their health status then now you are taking them backward again.

To some extent, this view is shared by health centre and Ministry of Health officials in Homa Bay, who feel that penalising especially elderly people for not coming regularly to clinics is counter-productive, and they have allegedly not yet issued health penalties, since the money is valuable to recipients.

Moreover, health workers in Homa Bay and Kwale feel extremely overburdened with work, lack the time to fill out forms properly and see this as a low priority, given that they are not remunerated for it. As a health worker points out:

I cannot follow up with them – are they paying me? We see we've been added work in form filling. Actually there is no motivation. There is no morale. They are not motivated. But anyway we do it, reluctantly.

Health workers in particular (and teachers, too) seem to have also experienced staff turnover, and many are not trained in how and when to fill out forms. Again, this training seems to represent a lower priority than with other colleagues.

Therefore, a significant amount of flexibility is involved when health staff fill out compliance forms, and children's office staff often appear to carry out more detailed follow-ups (or, at least, to recognise the need for this) that involve visiting communities, asking to see people's health cards, seeking reasons for non-compliance and deciding, on that basis, whether they should fill out the form to deliver a fine. However, children's officers are not able to follow up in every case, and follow-up is possible only on rare occasions when resources are available. The coverage of the follow-up on health conditions across the entire location is very patchy. Health staff acknowledge the need to follow up to a greater degree, but lack the capacity to do this. Even if there is some follow-up, the completeness of the health compliance forms can be questioned, and it seems very likely that the forms do not reflect, in all cases, recipients' actual utilisation of the service.

Thus, although the district children's office supplies and collects forms, these are not completed thoroughly at the large hospital. Potential solutions to the problem of multiple health sites is being given consideration, including more intensive community-based checking, or sub-dividing the list to several sites. It is not clear that these solutions will be entirely effective, and it seems likely that health staff will remain unmotivated to fill in forms clearly and truthfully when they are not entirely convinced of the validity of penalties, and when they receive no remuneration for filling out forms.

Education penalties are more strictly enforced, for various reasons. Teachers, Programme staff and recipients seem generally more convinced about the usefulness of enforcing the conditions attached to basic schooling, as do recipients and children, and it tallies with the law. School attendance is also perceived as partly responsible for improving retention in families and delaying marriage, and most individuals perceive more clearly the benefits of regularly attending school, while the benefits of regular health centre visits, particularly for growth monitoring, are less clearly perceived by stakeholders.

Nevertheless, recipients still often struggle to meet these conditions, and staff responsible (teachers) for filling out the forms still often apply some lenience when completing the registers. In Homa Bay, the chief notes that elderly caregivers may forget the deadlines for conditions, and be unhelpfully penalised. Teachers note that attendance has increased as they fill out the forms, have them checked by the headmaster, and submit them to the chief,

who submits them to the DCO. Teachers speak of problems when the headmaster is absent, because they recognise parents' legitimate reasons to keep their children on farms, looking after cattle or their siblings, and having responsibility for filling out the form in these circumstances is challenging. The system of following up these forms seems slightly fragile: the DCO argues that it is the responsibility of the District Education Officer (DEO), but this seems, in practice, a fairly large burden for the DEO, and the chief is largely responsible for the collection of forms. In Kwale, the DCO's office deposits and collects the form but, since there are 10 to 12 basic schools in the area, and limited resources, they are sometimes late in collecting the forms and have very minimal time to follow up, according to the DCO.

In Homa Bay, teachers and health centre workers follow up on non-compliance with the chief, and the chief's key role in delivering and finalising the forms enables him to follow up informally before any penalties are made every month.

There are similar problems of training in the education system – but perhaps not as acute as in health, as basic school teachers seem to be transferred less. Respondents in both Homa Bay and Kwale reported that, while some teachers at the school are trained, others move after training, and then they have to be retrained by an activist LOC member or chief, time permitting. As in health, there are some teachers who do not feel capable of filling out the forms and have not received training for this.

Complementary services

The baseline study had made various recommendations for services to complement the cash transfer, either to assist recipients to spend the money more wisely, or to help orphans in other ways. The follow-up study explored these additional services by asking community members and Programme staff whether they had offered, or were offering, any services, and by asking for additional suggestions for further services.

The researchers did not find any significant additional services, or services offered in conjunction with the Programme, in the areas visited. Generally, the chiefs and LOC members run awareness sessions on how to spend the money, but attendance is not compulsory, and it is unclear whether this advice is particularly useful, as recipients point to the increases in prices that make investment impossible. They also run sessions on HIV awareness, and on encouraging registration of births and deaths. In Nairobi, the local leaders have encouraged recipients to set up bead-making groups, but this is not at all systematic. Carers in Homa Bay and Nairobi felt, however, that lessons in how to care for orphans would have been useful, particularly as many of them were grandparents and were not confident raising children in a different context to the one in which they raised their own.

There were other agencies working with orphans in the areas visited, including the USAID APHIA II programme in Kwale, and AMREF and World Vision in Nairobi. No NGOs were found to be working in the area visited in Homa Bay, although NGOs do work in Homa Bay, and the children's group were complimentary about NGOs (relative to the government). In Kwale, recipients felt that APHIA II distributed food to those not in the CT-OVC Programme; and non-recipients reported that APHIA II was helping them, although not delivering on their promises. The distribution of public benefits between recipients and others was extended, according to the recipients, to the distribution of relief food, that they felt was allocated by the LOC chairman to non-recipients. As the Kwale DCO puts it, the aim of the Programme is to bring households containing OVCs to the same level as other households, but not beyond that level.

Respondents in Nairobi and Homa Bay did not report the activities of other NGOs, but staff from AMREF and World Vision are on the DOSC. World Vision have a programme targeted

towards vulnerable children, many of whom are OVCs on the Programme, although they also deliberately target those not on the Programme. This programme gives full or partial support to children undertaking vocational training, depending on need, and pays the medical bills of those unable to settle their own bills. AMREF have a community-based rehabilitation programme for OVCs and, as part of this, holds quarterly meetings where this programme, amongst other things, is discussed, and the progress of some children is monitored.

B.3 Recommendations from the follow-up study

The baseline qualitative study generated various recommendations, summarised in sub-section B.1.3. This sub-section sets out some additional recommendations from the qualitative follow-up study. They are:

- **The Programme could consider defining clearer terms of reference and remuneration** for the key community member in each sub-location who is effectively responsible for the implementation of the Programme ‘on the ground’, with a schedule of training that is matched to the responsibilities and payment they receive. The payment could even be restricted to expenses around communication or transport. This person could then pass on some of this remuneration to other helpers in the community as needed. The baseline recommendation for the provision of bicycles to the concerned individual remains valid.
- **Regular training** needs to take place for all officials and government staff engaged with the Programme, whether responsible for monitoring conditions in facilities, the DCO, or the chief. This is both requested by staff, and clearly important for them to fulfil their roles.
- **Terms of reference and training sessions** should be set out in a revised Operations Manual, and this manual should be shared and clarified with Programme staff. They currently have no apparent knowledge of it.
- **The approach to monitoring compliance with health conditions** should be reconsidered. The Programme should consider if the costs and difficulties of monitoring and enforcing growth monitoring are warranted by the benefits it gives. If growth monitoring is to be retained as a condition, Programme and health facility staff and recipients need to be convinced of its value, in order that health staff will fill out forms correctly. The system of compliance monitoring needs rethinking where there are multiple potential health centres. In the absence of an integrated health information system, it is difficult to envisage a system that does not involve significantly more work for either the DCO or the recipients. One possible way forward is greater engagement with the Ministry of Health in Nairobi, to encourage them to send information to the DCO from community health facilities.
- **The targeting process** could be improved with more effective community *barazas* and initial identification of OVC households. This will require higher investments, but should reduce exclusion errors. Community *barazas* typically involve the transfer of information from officials to the community; encouraging a flow in the opposite direction is challenging, and requires greater invention and more application than has currently been shown. The initial identification of OVC households may require house-to-house visits. The appeals process currently does not exist on the ground, but could usefully be instituted as an independent commission to ensure that households are able to voice complaints about exclusion and inclusion in targeting without having to voice their concerns publicly in the *baraza*. In any case, targeting should be allocated a longer time period for information to spread and LOC members to find all households.

- **Care needs to be taken at enrolment** that names and ages are recorded accurately. Caregivers may have claimed their children were younger than they are at enrolment, causing problems for compliance with health conditions regarding children aged under five years. Mistakes regarding names and identity card numbers can cause significant problems for payments.
- **As in the baseline, the recommendation for regular repetition of the targeting and enrolment process** in existing Programme communities to identify newly eligible households stands. Programme staff and recipients expressed confusion about households exiting the Programme but not being replaced, especially given the increases in the numbers of orphans in the community.
- **Payments are working well, but information around exits and deductions is not reaching recipients.** This information needs to be passed on by the relevant staff, and this should be part of their terms of reference.
- **Information about the days when payments become available** at the post offices should be passed by word of mouth where possible, and resources allocated to appropriate individuals to support this, with recognition of this responsibility in their terms of reference.

Annex C Additional tables

C.1 Targeting analysis

Table C.1 Comparison between study (CT-OVC) and national populations: Key indicators

| Indicator | CT-OVC Programme baseline survey (OVC households) | DHS 2003 (All households) | | |
|--|--|------------------------------|-------|-------|
| | Evaluation locations | Urban | Rural | Total |
| Household characteristics | | | | |
| Mean household size | 5 | 4 | 5 | 4 |
| Mean number of rooms occupied by household ⁶⁷ | 2 | 2 | 3 | 3 |
| Household dwelling – proportion of households with: (%) | | | | |
| Poor quality roof (mud/cow dung/grass/sticks) | 20 | 4 | 29 | 23 |
| Poor quality floor (mud/cow dung) ⁶⁸ | 59 | 19 | 77 | 62 |
| Main source of cooking fuel is firewood or residue/animal waste/grass | 77 | 11 | 86 | 67 |
| Main source of lighting fuel is electricity ⁶⁹ | 15 | 50 | 5 | 16 |
| No toilet (toilet is of type 'none') | 44 | 5 | 21 | 16 |
| Main source of drinking water during the dry season is river, lake or pond ⁷⁰ | 46 | 5 | 54 | 42 |
| Household assets – proportion of households that own: (%) | | | | |
| Real estate (including dwelling) ⁷¹ | 76 | 16 | 81 | 64 |
| Radio | 50 | 81 | 71 | 74 |
| Telephone/mobile | 26 | 33 | 6 | 13 |
| Education | | | | |
| Proportion of children aged 6–15 years currently enrolled in school | 86 | 91 | 90 | 89 |
| Health | | | | |
| Proportion of children aged 0–59 months (i.e. under 5 years) malnourished (<2sd) on height for age (<i>stunted</i>) ¹ | 40 | 24 | 32 | 30 |
| Proportion of children aged 0–59 months (i.e. under 5 | 17 | 13 | 21 | 20 |

⁶⁷ DHS (2003) gives figures for the mean number of persons per sleeping room.

⁶⁸ DHS (2003) equivalent categories include earth/mud/dung/sand.

⁶⁹ DHS (2003) asks only whether the household has electricity or not.

⁷⁰ DHS (2003) asks only source of drinking water; of the DHS categories here, we include spring/river/stream/ pond/lake/dam (dam is 3.3 per cent).

⁷¹ DHS (2003) asks whether the household owns the structure of the house, and the land on which the structure sits. The national total for households who own their own house (and, presumably, the land on which it is built) is 70.5 per cent, somewhat closer to the baseline survey estimates.

| Indicator | CT-OVC Programme baseline survey (OVC households) | DHS 2003 (All households) | | |
|---|--|------------------------------|-------|--------------|
| | Evaluation locations | Urban | Rural | Total |
| years) malnourished (<2sd) on weight for age (underweight) ¹ | | | | |
| Proportion of children aged 0–59 months (i.e. under 5 years) malnourished (<2sd) on weight for height (wasted) ¹ | 10 | 4 | 6 | 6 |
| Proportion of children aged 12–23 months (aged 1) fully vaccinated | 72 | 59 | 56 | 57 |
| Proportion of children aged 0–59 months (i.e. under 5 years) that have been ill with diarrhoea at any time within the last month treated with additional fluids or ORS ⁷² | 68 | 52 | 50 | 51 |
| Health facility usage | | | | |
| Proportion of children aged 0–59 months (i.e. under 5 years) with diarrhoea in preceding month for whom treatment was sought from a health facility or provider ⁷³ | 36 | – | – | 30 |
| Proportion of children aged 0–59 months (i.e. under 5 years) with symptoms of ARI and/or fever in preceding month for whom treatment was sought from a health facility or provider ⁷⁴ | 44 | 54 | 44 | 46 |
| N = # households (unweighted) | 2,648 | | | 8,542 |

Sources: OPM CT-OVC evaluation baseline data (2007), DHS (2003).

⁷² DHS (2003) gives the proportion of children aged under five years who had diarrhoea (or ARI symptoms/fever) in the two weeks preceding the survey.

⁷³ DHS (2003) gives the proportion of children aged under five years who had diarrhoea (or ARI symptoms/fever) in the two weeks preceding the survey.

⁷⁴ DHS (2003) gives the proportion of children aged under five years who had diarrhoea (or ARI symptoms/fever) in the two weeks preceding the survey.

Table C.2 Proportion of OVC households in the treatment locations satisfying each of the Programme's poverty indicators, by consumption quintile (%)

| | Quintile 1 (less well off) | Quintile 2 | Quintile 3 | Quintile 4 | Quintile 5 (better off) | Overall |
|--|----------------------------|------------|------------|------------|-------------------------|--------------|
| Proportion of OVC households with each of the following poverty characteristics: (%) | | | | | | |
| (1) Household contains no adults that have reached Education Standard 8 | 43 | 41 | 37 | 39 | 24 | 37 |
| (2) Caregiver is not currently working or working as a farmer/labourer | 90 | 80 | 78 | 69 | 56 | 76 |
| (3) Caregiver has less than two acres of land | 53 | 59 | 63 | 66 | 59 | 60 |
| (4) Construction material of household dwelling walls is mud/cow dung or grass/sticks/ <i>makuti</i> | 84 | 69 | 78 | 58 | 43 | 68 |
| (5) Construction materials of household dwelling floor is mud/cow dung | 73 | 66 | 69 | 51 | 40 | 61 |
| (6) Construction materials of household dwelling roof is mud/cow dung | 0 | 0 | 0 | 0 | 0 | 0 |
| (7) Household toilet is of the type none/pan/bucket | 53 | 44 | 58 | 36 | 32 | 46 |
| (8) Household's source of drinking water is river, lake, pond or similar | 49 | 54 | 60 | 51 | 30 | 49 |
| (9) Household's source of lighting fuel is firewood | 14 | 2 | 1 | 3 | 1 | 5 |
| (10) Household's source of cooking fuel is firewood or residue/animal waste/grass | 94 | 90 | 87 | 72 | 56 | 81 |
| (11) Household owns no real estate property | 7 | 14 | 18 | 23 | 44 | 20 |
| (12) Household owns just two or fewer traditional zebu cattle | 92 | 81 | 77 | 80 | 89 | 84 |
| (13) Household owns no hybrid cattle | 100 | 100 | 99 | 98 | 89 | 98 |
| (14) Household owns five or fewer goats | 91 | 88 | 89 | 93 | 99 | 92 |
| (15) Household owns five or fewer sheep | 96 | 98 | 94 | 97 | 99 | 97 |
| (16) Household owns no pigs | 100 | 99 | 100 | 100 | 99 | 99 |
| (17) Household owns no camels. | 97 | 94 | 93 | 99 | 100 | 96 |
| Average number of characteristics satisfied (poverty score) | 11 | 11 | 11 | 10 | 10 | 11 |
| Proportion poor by Programme definition (poverty score of 8 or higher) | 100 | 96 | 98 | 97 | 83 | 95 |
| N = # OVC households (unweighted) | 426 | 415 | 360 | 282 | 241 | 1,724 |

Source: OPM CT-OVC evaluation baseline data (2007).

Notes: (1) Quintiles were defined over all evaluation locations using estimates of real consumption expenditure per adult equivalent, such that each quintile contained 20 per cent of the OVC households. (2) Real consumption expenditure per adult equivalent has been estimated by adjusting nominal expenditure for price differences across districts using a Paasche price index, constructed using OPM CT-OVC Programme baseline data from the household and community surveys. In order to enable valid inter-district comparison, rent has been excluded from the calculation of mean monthly real consumption expenditure. (3) Due to targeting errors, a small number of non-OVC households were included in the study population. These households were excluded in the estimation of the quintile cut-offs.

Table C.3 Distribution of eligible households in the treatment locations, by priority ranking and location consumption tercile (%)

| | Tercile 1 (less well off) | Tercile 2 | Tercile 3 (better off) | Overall |
|-----------------------------------|------------------------------|-----------|---------------------------|---------|
| Priority ranking quintile: | | | | |
| Quintile 1 (highest priority) | 38 | 31 | 31 | 100 |
| Quintile 2 | 51 | 27 | 22 | 100 |
| Quintile 3 | 33 | 30 | 37 | 100 |
| Quintile 4 | 37 | 28 | 35 | 100 |
| Quintile 5 (lowest priority) | 22 | 50 | 27 | 100 |

Source: OPM CT-OVC evaluation baseline data (2007).

Notes: (1) Location consumption terciles were defined by location using estimates of (nominal) consumption expenditure per adult equivalent, such that each tercile contained a third of OVC households in each location. (2) Priority ranking quintiles were defined (by location) by, first, ranking all eligible households according to the Programme's prioritisation criteria: by the age of child caregiver (from youngest to oldest if the caregiver was aged under 18 years; from the older to youngest down if the caregiver is aged over 18). Eligible households were then assigned to a quintile, such that each ranking quintile contains 20 per cent of eligible households in each location.

Table C.4 Targeting scores for selected comparable programmes

| Country | Programme | Share of transfers going to the reference group ('poor') | Proportion of households in the reference group (nationally) | Coady–Grosch–Hoddinot targeting performance score |
|------------------------------|------------------------------------|--|--|---|
| | | [A] | [B] | [= A/B] |
| <u>Africa</u> | | | | |
| Mozambique | GAPVU cash transfers | – | – | 1.05 |
| <u>Latin America</u> | | | | |
| Dominica | Cash transfer | 60 | 20 | 3.00 |
| Chile | SUF cash transfers | 83 | 40 | 2.08 |
| Nicaragua | RPS conditional cash transfer | 81 | 40 | 2.02 |
| Honduras | PRAF cash transfer | 80 | 40 | 1.99 |
| Chile | PASIS cash to poor elderly | 73 | 40 | 1.83 |
| Costa Rica | Non-contributory pensions | 69 | 40 | 1.73 |
| Mexico | PROGRESA conditional cash transfer | 62 | 40 | 1.56 |
| Colombia | Subsidio Familiar cash | 20 | 40 | 0.50 |
| <u>Eastern Europe</u> | | | | |
| Estonia | Cash social assistance | 35 | 10 | 3.47 |
| Hungary | Cash social assistance | 27 | 10 | 2.72 |
| Albania | Ngihme Ekonomika | 53 | 20 | 2.65 |
| Poland | Social assistance cash | 21 | 10 | 2.10 |
| Romania | Minimum income | 83 | 40 | 2.08 |
| Slovenia | Otroski Dodatek child benefit | 78 | 40 | 1.95 |
| Bulgaria | Cash social assistance | 78 | 40 | 1.95 |
| Hungary | Child cash allowance | 63 | 40 | 1.57 |
| Latvia | Family child allowance | 53 | 40 | 1.33 |
| Bulgaria | Cash pensions | 22 | 20 | 1.10 |
| Latvia | Social assistance programme | 40 | 40 | 1.00 |
| Poland | Family child allowance | 9 | 10 | 0.90 |
| <u>Other regions</u> | | | | |
| Yemen | Social welfare fund cash | 86 | 40 | 2.15 |
| Kyrgyz Republic | Unified monthly cash benefit | 74 | 40 | 1.85 |
| Uzbekistan | Child allowance | 54 | 40 | 1.35 |
| Armenia | Family cash benefit | 45 | 40 | 1.13 |
| Uzbekistan | Child/low-income benefit | 41 | 40 | 1.01 |
| Mean | | | | 1.77 |
| Median | | | | 1.84 |

Source: Coady *et al.* (2004), table 3 (except mean and median, calculated).

Note: This table does not include all programmes presented in the source table: only those providing cash support using means-test, proxy-means test, community assessment or categorical targeting are included in this table.

Table C.5 Poverty targeting of education and health public expenditure, 2005

| | Share of public spending going to the reference group ('poor') | Proportion of households in the reference group (nationally) | Coady-Grosch-Hoddinot targeting performance score |
|------------------------------|--|--|---|
| | [A] | [B] | [= A / B] |
| <u>Education</u> | | | |
| Basic | 41 | 40 | 1.02 |
| Secondary | 23 | 40 | 0.57 |
| Tertiary | 3 | 40 | 0.07 |
| All education | 30 | 40 | 0.75 |
| <u>Health</u> | | | |
| Referral hospital | 19 | 40 | 0.48 |
| District/provincial hospital | 28 | 40 | 0.70 |
| Primary facilities | 40 | 40 | 1.01 |
| All public facilities | 29 | 40 | 0.72 |

Sources: The Benefit Incidence of Government Health Spending in Kenya, World Bank 2010; Benefit incidence of public spending on education in Kenya, World Bank 2010. Author's calculation of the targeting score.

C.2 Socio-economic characteristics and impact

Table C.6 Participation in the Programme, by type of household

| | Treatment locations | | Control locations | |
|---|---------------------|------------------------|-------------------|----------------------|
| | Initial recipients | Initial non-recipients | Control group | Other OVC households |
| Proportion of households who: | | | | |
| are aware of the OVC cash transfer Programme that is operating in their community (%) | 99 | 72 | 25 | 27 |
| have ever received payments from the CT-OVC Programme (%) | 99 | 35 | 2 | 2 |
| are still receiving payments from the CT-OVC Programme (%) | 97 | 35 | 2 | 2 |
| Dropped out from the CT-OVC Programme (%) | 3 | 0 | 0 | 0 |

Source: OPM CT-OVC evaluation follow-up data (2009).

Note: This and subsequent tables exclude those that were lost to follow-up ('attriters').

Table C.7 Characteristics of caregivers in OVC households

| Indicator | Treatment locations | | | Control locations | | | diff in diff |
|---------------------------------------|----------------------|------------------|-----------|--------------------------|----------------|-----------|------------------------|
| | Recipient households | | | Control group households | | | |
| | 2007 | 2009 | diff | 2007 | 2009 | diff | |
| Mean number of children per caregiver | 2.729 [1,546] | 2.862 [1,446] | 0.133*** | 3.072 [623] | 3.107 [604] | 0.035 | 0.0981 (0.0950) |
| Gender – proportion male (%) | 0.139 [1,546] | 0.063 [1,446] | -0.076*** | 0.132 [623] | 0.051 [604] | -0.080*** | 0.00439 (0.0170) |
| Age (%) | | | | | | | |
| under 18 years | 0.02 [1,546] | 0.023 [1,446] | 0.003 | 0.022 [623] | 0.029 [604] | 0.007 | -0.00363 (0.0137) |
| 18–29 years | 0.168 [1,546] | 0.164 [1,446] | -0.004 | 0.225 [623] | 0.244 [604] | 0.019 | -0.0230 (0.0356) |
| 30–39 years | 0.094 [1,546] | 0.095 [1,446] | 0.001 | 0.23 [623] | 0.23 [604] | 0 | 0.000918 (0.0120) |
| 40–49 years | 0.157 [1,546] | 0.137 [1,446] | -0.020* | 0.206 [623] | 0.208 [604] | 0.002 | -0.0219 (0.0161) |
| 50–59 years | 0.239 [1,546] | 0.246 [1,446] | 0.007 | 0.131 [623] | 0.126 [604] | -0.004 | 0.0117 (0.0167) |
| over 60 years | 0.322 [1,546] | 0.334 [1,446] | 0.012 | 0.186 [623] | 0.162 [604] | -0.024 | 0.0359* (0.0208) |
| Proportion by job type (%) | | | | | | | |
| No job | 0.278 [1,546] | 0.28 [1,423] | 0.002 | 0.156 [623] | 0.268 [596] | 0.112** | -0.110** (0.0432) |
| Fisherman | 0.009 [1,546] | 0.02 [1,423] | 0.011 | 0.002 [623] | 0.01 [596] | 0.008 | 0.00332 (0.0109) |
| Farmer | 0.45 [1,546] | 0.441 [1,423] | -0.01 | 0.516 [623] | 0.409 [596] | -0.107** | 0.0975* (0.0566) |
| Livestock farmer | 0.008 [1,546] | 0.005 [1,423] | -0.003 | 0.008 [623] | 0.007 [596] | -0.001 | -0.00246 (0.00708) |
| Own business/employer | 0.092 [1,546] | 0.117 [1,423] | 0.026 | 0.115 [623] | 0.119 [596] | 0.005 | 0.0210 (0.0308) |
| Apprentice | 0.002 [1,546] | 0.001 [1,423] | 0 | 0 [623] | 0.004 [596] | 0.004 | -0.00483* (0.00270) |
| Other | 0.007 [1,546] | 0.012 [1,423] | 0.005 | 0.005 [623] | 0.007 [596] | 0.002 | 0.00260 (0.00941) |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Standard errors in parentheses (): *** p<0.01; ** p<0.05; * p<0.1. (2) Number of observations over which the estimate is generated is given in square brackets [].

Table C.8 Characteristics of OVC households on OVC criteria

| Indicator | Treatment locations | | | Control locations | | | Diff-in-diffs |
|--|----------------------|-------------------|----------|--------------------------|-----------------|----------|--------------------|
| | Recipient households | | | Control group households | | | |
| | 2007 | 2009 | Diff. | 2007 | 2009 | Diff. | |
| Mean number of children | 3.367 [1,289] | 3.257 [1,289] | -0.11 | 3.53 [540] | 3.537 [540] | 0.007 | -0.117 (0.113) |
| Contain orphan(s) (%) | 97.337 [1,289] | 94.882 [1,289] | -2.456** | 94.916 [540] | 93.073 [540] | -1.843 | -0.613 (1.772) |
| Mean number of orphans contained | 2.553 [1,289] | 2.572 [1,289] | 0.019 | 2.481 [540] | 2.467 [540] | -0.014 | 0.0326 (0.0780) |
| Contain child household head (%) | 0.059 [1,287] | 0.179 [1,265] | 0.12 | 0 [540] | 0 [533] | 0 | 0.120 (0.117) |
| Contain chronically ill child (%) | 8.995 [1,289] | 16.412 [1,268] | 7.416*** | 11.77 [540] | 17.925 [533] | 6.155** | 1.262 (3.004) |
| Contain chronically ill caregiver(s) (%) | 17.585 [1,288] | 20.78 [1,268] | 3.195 | 17.043 [540] | 17.143 [533] | 0.099 | 3.096 (3.701) |
| Contain OVC(s) (%) | 100 [1,289] | 98.152 [1,268] | -1.848** | 100 [540] | 96.529 [533] | -3.471** | 1.623 (0) |
| Mean number of OVCs contained | 2.715 [1,289] | 2.742 [1,268] | 0.027 | 2.727 [540] | 2.666 [533] | -0.061 | 0.0880 (0.104) |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Standard errors in parentheses (): *** p<0.01; ** p<0.05; * p<0.1. (2) Number of observations over which the estimate is generated is given in square brackets [].

Table C.9 Characteristics of OVCs

| Indicator | Treatment locations | | | Control locations | | | Diff-in-diffs |
|---|----------------------|---------|-----------|--------------------------|---------|-----------|---------------|
| | Recipient households | | | Control group households | | | |
| | 2007 | 2009 | Diff. | 2007 | 2009 | Diff. | |
| OVC status – proportion of OVCs with following characteristics: (%) | | | | | | | |
| Orphan (single or double) | 0.941 | 0.956 | 0.015* | 0.91 | 0.937 | 0.027 | -0.0116 |
| | [3,520] | [3,497] | | [1,486] | [1,466] | | (0.0240) |
| Single orphan | 0.564 | 0.499 | -0.065*** | 0.648 | 0.583 | -0.066*** | 0.000849 |
| | [3,520] | [3,497] | | [1,486] | [1,466] | | (0.0238) |
| Double orphan | 0.377 | 0.457 | 0.080*** | 0.261 | 0.354 | 0.093*** | -0.0124 |
| | [3,520] | [3,497] | | [1,486] | [1,466] | | (0.0156) |
| Chronically ill | 0.037 | 0.071 | 0.034*** | 0.049 | 0.083 | 0.034*** | -0.000223 |
| | [3,520] | [3,497] | | [1,486] | [1,466] | | (0.0117) |
| Looked after by a caregiver who is chronically ill | 0.175 | 0.211 | 0.035* | 0.199 | 0.18 | -0.019 | 0.0541 |
| | [3,520] | [3,497] | | [1,486] | [1,466] | | (0.0389) |
| Living in a child-headed household | 0.002 | 0.003 | 0.001 | 0 | 0 | 0 | 0.00105 |
| | [3,520] | [3,497] | | [1,486] | [1,466] | | (0) |
| Proportion of OVCs cared for by (%) | | | | | | | |
| Parent | 0.396 | 0.316 | -0.080*** | 0.566 | 0.511 | -0.055** | -0.0250 |
| | [3,520] | [3,497] | | [1,486] | [1,466] | | (0.0234) |
| Grandparent | 0.397 | 0.449 | 0.051*** | 0.196 | 0.223 | 0.027 | 0.0249 |
| | [3,520] | [3,497] | | [1,486] | [1,466] | | (0.0260) |
| Other relative | 0.201 | 0.228 | 0.027* | 0.237 | 0.26 | 0.023 | 0.00385 |
| | [3,520] | [3,497] | | [1,486] | [1,466] | | (0.0227) |
| Non-relative | 0.006 | 0.007 | 0.002 | 0.001 | 0.006 | 0.005 | -0.00369 |
| | [3,520] | [3,497] | | [1,486] | [1,466] | | (0.00571) |
| Age: (%) | | | | | | | |
| 0–5 years | 0.156 | 0.154 | -0.002 | 0.197 | 0.185 | -0.013 | 0.0104 |
| | [3,520] | [3,497] | | [1,486] | [1,466] | | (0.0182) |
| 6–10 years | 0.33 | 0.262 | -0.068*** | 0.324 | 0.292 | -0.031** | -0.0362** |
| | [3,520] | [3,497] | | [1,486] | [1,466] | | (0.0151) |
| 11–15 years | 0.42 | 0.428 | 0.008 | 0.379 | 0.374 | -0.005 | 0.0129 |
| | [3,520] | [3,497] | | [1,486] | [1,466] | | (0.0132) |
| 16–17 years | 0.094 | 0.156 | 0.062*** | 0.1 | 0.149 | 0.049*** | 0.0130 |
| | [3,520] | [3,497] | | [1,486] | [1,466] | | (0.0136) |
| Gender: | | | | | | | |
| Proportion male | 0.546 | 0.541 | -.005 | 0.521 | 0.514 | -.007 | .0019 |
| | [3,520] | [3,497] | | [1,483] | [1,466] | | (1.341) |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Standard errors in parentheses (): *** p<0.01; ** p<0.05; * p<0.1. (2) Number of observations over which the estimate is generated is given in square brackets [].

Table C.10 Basic socio-economic characteristics of OVC households

| Indicator | Treatment locations | | | Control locations | | | Crude Diff-in-diffs | Impact estimate from model |
|---|----------------------|------------------|-----------|--------------------------|----------------|-----------|------------------------|----------------------------|
| | Recipient households | | | Control group households | | | | |
| | 2007 | 2009 | Diff. | 2007 | 2009 | Diff. | | |
| Consumption expenditure: | | | | | | | | |
| Mean monthly real consumption expenditure per adult equivalent (Ksh) | 1564 [1,289] | 1796 [1,289] | 232** | 1652 [540] | 1610 [540] | -41 | 273 * (135.8) | 274** |
| Mean monthly real consumption expenditure (Ksh) | 6506 [1,289] | 7386 [1,289] | 881* | 6572 [540] | 7102 [540] | 530* | 351 (494.1) | 455 |
| Proportion living on less than \$1 a day | 0.371 [1,289] | 0.21 [1,289] | -0.161*** | 0.331 [540] | 0.302 [540] | -0.029 | -0.133** (0.056) | -0.132** |
| Proportion living on less than \$2 a day | 0.842 [1,289] | 0.76 [1,289] | -0.083** | 0.821 [540] | 0.84 [540] | 0.019 | -0.101* (0.0512) | -0.103* |
| Household characteristics: | | | | | | | | |
| Mean household size | 5.652 [1,289] | 5.622 [1,289] | -0.03 | 5.663 [540] | 5.936 [540] | 0.273* | -0.303* (0.15) | -0.276* |
| Mean number of rooms occupied | 2.341 [1,289] | 2.453 [1,289] | 0.111** | 2.151 [540] | 2.273 [540] | 0.122* | -0.0108 (0.0753) | 0.00100 |
| Proportion of OVC households that contain no adults who have reached Education Standard 8 (%) | 0.501 [1,190] | 0.457 [1,243] | -0.044*** | 0.374 [501] | 0.286 [523] | -0.088*** | 0.0440** (0.019) | 0.0326* |
| Household dwelling – proportion of OVC households with: (%) | | | | | | | | |
| Poor quality walls (mud/cow dung/grass/sticks) | 0.797 [1,289] | 0.788 [1,289] | -0.009 | 0.847 [540] | 0.816 [540] | -0.031 | 0.0216 (0.0239) | 0.0206 |
| Poor quality roof (mud/cow dung/grass/sticks) | 0.242 [1,289] | 0.223 [1,289] | -0.019 | 0.206 [540] | 0.185 [540] | -0.021* | 0.00214 (0.0184) | -0.000433 |
| Poor quality floor (mud/cow dung) | 0.688 [1,289] | 0.638 [1,289] | -0.050*** | 0.736 [540] | 0.7 [540] | -0.036 | -0.0136 (0.0294) | -0.0114 |
| Main source of cooking fuel is firewood or residue/animal waste/grass | 0.869 [1,289] | 0.844 [1,289] | -0.025*** | 0.769 [540] | 0.808 [540] | 0.039* | -0.0646*** (0.0204) | -0.0647*** |
| main source of lighting fuel is electricity | 0.06 [1,289] | 0.078 [1,289] | 0.018 | 0.079 [540] | 0.094 [540] | 0.015 | 0.00279 (0.0149) | 0.0106 |
| No toilet (toilet is type none/pan/bucket) | 0.569 [1,289] | 0.481 [1,289] | -0.087** | 0.536 [540] | 0.548 [540] | 0.012 | -0.0997** (0.0453) | -0.106** |
| Main source of drinking water during the dry season is river, lake or pond | 0.479 [1,289] | 0.413 [1,289] | -0.066** | 0.5 [540] | 0.445 [540] | -0.055 | -0.0107 (0.0437) | -0.0146 |
| Household assets – proportion of OVC households that own: (%) | | | | | | | | |
| Real estate | 0.809 [1,289] | 0.883 [1,289] | 0.074* | 0.804 [540] | 0.822 [540] | 0.018 | 0.056 (0.0468) | 0.0613 |
| Farming land | 0.821 [1,288] | 0.824 [1,129] | 0.002 | 0.849 [540] | 0.836 [485] | -0.014 | 0.0163 (0.0142) | |
| Livestock | 0.765 [1,289] | 0.756 [1,289] | -0.01 | 0.739 [540] | 0.716 [540] | -0.023 | 0.0134 (0.0384) | 0.0198 |

Kenya CT-OVC Programme – Operational and Impact Evaluation: 2007-2009

| | | | | | | | | |
|--------------------|------------------|------------------|----------|----------------|----------------|----------|----------------------|----------|
| Radio | 0.382 [1,289] | 0.522 [1,289] | 0.140*** | 0.477 [540] | 0.506 [540] | 0.028 | 0.111** (0.0415) | 0.107** |
| Telephone/mobile | 0.113 [1,289] | 0.301 [1,289] | 0.188*** | 0.198 [540] | 0.384 [540] | 0.186*** | 0.00222 (0.0411) | 0.0103 |
| Bucket/basin | 0.893 [1,289] | 0.931 [1,289] | 0.038* | 0.899 [540] | 0.926 [540] | 0.027 | 0.0107 (0.027) | 0.0170 |
| Table | 0.827 [1,286] | 0.871 [1,289] | 0.044 | 0.854 [539] | 0.873 [540] | 0.019 | 0.0251 (0.0299) | 0.0225 |
| Chair/wooden stool | 0.9 [1,286] | 0.934 [1,289] | 0.034 | 0.915 [540] | 0.936 [540] | 0.021 | 0.0127 (0.0367) | 0.0169 |
| Bed linen | 0.753 [1,289] | 0.886 [1,289] | 0.133*** | 0.829 [540] | 0.837 [540] | 0.007 | 0.126** (0.0476) | 0.131** |
| Blankets | 0.847 [1,289] | 0.892 [1,289] | 0.045** | 0.855 [539] | 0.892 [540] | 0.037 | 0.00771 (0.0349) | 0.00530 |
| Mosquito net | 0.573 [1,289] | 0.809 [1,289] | 0.237*** | 0.702 [539] | 0.752 [540] | 0.05 | 0.187*** (0.0399) | 0.172*** |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Real consumption expenditure per adult equivalent has been estimated by adjusting nominal expenditure for price differences across districts using a Paasche price index. Rent has been excluded. (2) Standard errors in parentheses (): *** p<0.01; ** p<0.05; * p<0.1. (3) Number of observations over which the estimate is generated is given in square brackets [].

Table C.11 Household ownership of productive assets

| Indicator | Treatment locations | | | Control locations | | | Crude Diff-in- diffs |
|---|----------------------|------------------|----------|--------------------------|------------------|----------|----------------------------|
| | Recipient households | | | Control group households | | | |
| | 2007 | 2009 | Diff. | 2007 | 2009 | Diff. | |
| Proportion of households that own a bicycle | 0.153 [2,559] | 0.173 [2,559] | 0.02 | 0.201 [1,071] | 0.191 [1,071] | -0.011 | 0.0306 (0.0316) |
| Proportion of households that own a phone | 0.114 [2,559] | 0.3 [2,559] | 0.187*** | 0.199 [1,071] | 0.383 [1,071] | 0.184*** | 0.00302 (0.0419) |
| Proportion of households that own the dwelling | 0.846 [2,559] | 0.846 [2,559] | 0 | 0.815 [1,071] | 0.812 [1,071] | -0.003 | 0.00327 (0.00226) |
| Mean number of acres of farm land owned | 3.14 [2,405] | 3.145 [2,399] | 0.005 | 2.697 [1,016] | 2.703 [1,016] | 0.006 | -0.00111 (0.0132) |
| Proportion of households that own livestock/poultry | 0.759 [2,559] | 0.761 [2,559] | 0.001 | 0.727 [1,071] | 0.727 [1,071] | 0 | 0.000759 (0.00178) |
| Mean number of donkeys owned | 0.054 [2,559] | 0.054 [2,559] | 0 | 0.04 [1,071] | 0.04 [1,071] | 0 | 0 (0) |
| Mean number of camels owned | 0.051 [2,559] | 0.051 [2,559] | 0 | 0.04 [1,071] | 0.04 [1,071] | 0 | 0 (0) |
| Mean number of goats owned | 1.927 [2,557] | 1.908 [2,557] | -0.019 | 1.825 [1,071] | 1.823 [1,071] | -0.002 | -0.0167 (0.0211) |
| Mean number of sheep owned | 0.648 [2,558] | 0.65 [2,558] | 0.002 | 0.733 [1,071] | 0.722 [1,071] | -0.01 | 0.0121 (0.00950) |
| Mean number of pigs owned | 0.045 [2,559] | 0.045 [2,559] | 0 | 0.038 [1,071] | 0.038 [1,071] | 0 | 0 (0) |
| Mean number of poultry owned | 3.422 [2,558] | 3.435 [2,559] | 0.013 | 4.138 [1,070] | 4.129 [1,070] | -0.008 | 0.0216 (0.0207) |
| Proportion of households that own farming land | 0.821 [2,405] | 0.821 [2,399] | 0 | 0.844 [1,016] | 0.842 [1,016] | -0.002 | 0.00237 (0.00235) |
| Mean number of cattle owned | 1.057 [2,559] | 1.066 [2,559] | 0.009* | 1.214 [1,071] | 1.183 [1,071] | -0.031 | 0.0404 (0.0244) |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Standard errors of estimate of difference-in-differences in parentheses (): *** p<0.01; ** p<0.05; * p<0.1. (2) Number of observations over which the estimate is generated is given in square brackets [].

Table C.12 Household sources of income

| Indicator | Treatment locations | | | Control locations | | | Crude Diff-in- diffs | Impact estimate from model |
|--|----------------------|-------------------|-----------|--------------------------|------------------|------------|----------------------------|-------------------------------------|
| | Recipient households | | | Control group households | | | | |
| | 2007 | 2009 | Diff. | 2007 | 2009 | Diff. | | |
| Proportion of household whose main income comes from: | | | | | | | | |
| Gifts or transfers (including OVC cash transfers) | 0.07 | 0.233 | 0.163*** | 0.054 | 0.044 | -0.01 | 0.173*** | 0.184*** |
| OVC cash transfer | 0.001 | 0.21 | 0.209*** | 0 | 0.006 | 0.006 | 0.203*** | 0.217*** |
| Wage employment | 0.034 | 0.059 | 0.025* | 0.099 | 0.128 | 0.029 | -0.00372 | -0.00231 |
| Agricultural self-employment (farming/livestock) | 0.544 | 0.379 | -0.165*** | 0.532 | 0.409 | -0.123** | -0.0416 | -0.0441 |
| Non-agricultural self- employment (e.g. casual/manual labour, fishing) | 0.26 | 0.25 | -0.01 | 0.221 | 0.327 | 0.106** | -0.116** | -0.125** |
| Own business/employer | 0.075 | 0.071 | -0.004 | 0.082 | 0.084 | 0.002 | -0.00581 | -0.00564 |
| Investments (property/land rental/interest) | 0.004 | 0.002 | -0.003 | 0.002 | 0.001 | -0.002 | -0.000783 | -0.000830 |
| Pension | 0.002 | 0.001 | -0.001 | 0.003 | 0.001 | -0.002 | 0.00153 | 0.00157 |
| Does not work | 0.056 | 0.122 | 0.066** | 0.032 | 0.038 | 0.006 | 0.0593** | 0.0606** |
| Number of observations | [1289] | [1289] | | [540] | [540] | | | |
| Mean household cash support received per month | 68.541 [1,199] | 86.965 [1,251] | 18.424 | 128.672 [525] | 109.467 [515] | -19.205 | 37.63 (72.33) | 36.73 |
| Mean household in-kind support received per month | 50.887 [1,190] | 29.653 [1,187] | -21.234 | 60.34 [521] | 17.778 [512] | -42.562* | 21.33 (28.32) | |
| Mean household total support received per month (cash + in- kind) | 115.849 [1,177] | 54.602 [1,149] | -61.247** | 189.956 [519] | 53.664 [487] | -136.292** | 75.05 (62.43) | 72.79 |
| Proportion of households that have at least one member employed in fishing | 0.033 [1,289] | 0.055 [1,289] | 0.022* | 0.026 [540] | 0.046 [540] | 0.02 | 0.00174 (0.0164) | |
| Proportion of households that have at least one member employed in farming | 0.544 [1,289] | 0.547 [1,289] | 0.003 | 0.591 [540] | 0.507 [540] | -0.084** | 0.0866* (0.0497) | |
| Proportion of households that have at least one member employed in livestock farming | 0.012 [1,289] | 0.016 [1,289] | 0.004 | 0.01 [540] | 0.016 [540] | 0.006 | -0.00205 (0.00623) | |
| Proportion of households that have at least one member employed in own business | 0.131 [1,289] | 0.153 [1,289] | 0.023 | 0.138 [540] | 0.156 [540] | 0.018 | 0.0041 (0.0365) | |

| | | | | | | | |
|--|------------------|-----------------|-----------|------------------|------------------|----------|-----------------------|
| Proportion of households that have at least one member employed in apprenticeship | 0.005 [1,289] | 0.01 [1,289] | 0.005* | 0.006 [540] | 0.012 [540] | 0.007 | -0.00166 (0.00576) |
| Proportion of adults (aged over 17 years) whose main activity in the preceding month was working to earn money | 0.328 [2,860] | 0.16 [2,956] | -0.168*** | 0.349 [1,178] | 0.195 [1,294] | -0.155** | -0.0134 (0.0586) |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Standard errors of estimate of difference-in-differences in parentheses (): *** p<0.01; ** p<0.05; * p<0.1. (2) Number of observations over which the estimate is generated is given in square brackets [].

Table C.13 Household saving behaviour

| Indicator | 2009 | | Diff. |
|--|----------------------|--------------------------|---------|
| | Recipient households | Control group households | |
| Proportion of households that are currently saving (in cash) | 0.106 [1,288] | 0.062 [540] | 0.044** |
| Proportion of households that have saved in the past (in cash) | 0.113 [1,288] | 0.067 [540] | 0.047* |
| Mean amount of savings in the preceding month (in cash) | 121.861 [1,274] | 53.784 [538] | 68.077* |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Standard errors of estimate of difference-in-differences in parentheses (): *** p<0.01; ** p<0.05; * p<0.1. (2) Number of observations over which the estimate is generated is given in square brackets [].

Table C.14 Mean z-scores, children aged 0–59 months

| | Treatment locations | | | Control locations | | | Diff-in-diffs |
|-------------------|----------------------|-----------------|----------|--------------------------|-----------------|-----------|--------------------|
| | Recipient households | | | Control group households | | | |
| | 2007 | 2009 | Diff. | 2007 | 2009 | Diff. | |
| Stunting – HAZ | -1.466 [458] | -1.279 [442] | 0.187 | -1.462 [251] | -1.248 [295] | 0.214 | -0.0272 (0.243) |
| Underweight – WAZ | -0.879 [473] | -1.034 [456] | -0.155 | -0.923 [266] | -0.804 [296] | 0.119 | -0.274 (0.183) |
| Wasting – WHZ | -0.017 [592] | -0.332 [648] | -0.315** | 0.065 [303] | -0.166 [341] | -0.232*** | -0.0838 (0.130) |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) See Annex D for details of the anthropometric analysis and definition of *stunted*, *underweight* and *wasted*. (2) Standard errors in parentheses (): *** p<0.01; ** p<0.05; * p<0.1. (3) Number of observations over which the estimate is generated is given in square brackets [].

Annex D Anthropometric analysis

D.1 The data

The weight and height of children was collected in both surveys. It was collected for children aged from 0 to 5 years at baseline and aged 0 to 7 years at follow-up, so that older children measured at baseline would also have follow-up information. Some improvements were made to the measurement procedures at follow-up, particularly by insisting on the field teams taking two independent measurements for each child and resolving any discrepancies between them. Additional efforts were also made to record children's age in months during the follow-up survey using local event calendars, with a view to ensuring it was available for all children from at least one round of the survey. Unfortunately, this was not as successful as had been hoped and a significant proportion had missing or inconsistent age data, which could not always be resolved.

Two sources of age information were given in each survey: a question on age and a question on the date of birth (which could be subtracted from the interview date in order to calculate age). Often, the date of birth was not given, or only given to the nearest year. If the day of the date of birth was not given, it was generated randomly, as recommended by the World Health Organization (WHO). If the month of the date of birth was not given, then age-related anthropometric indicators could not be calculated, since they rely on age data being accurate to the nearest month. Therefore, in order to use as much of the available information as possible, the panel nature of the survey was exploited and a multi-step approach to deriving the best possible estimate of age was used. Throughout, follow-up ages were assumed to be more accurate, given the additional training and experience that the field staff had for the second survey. The age correction worked as follows:

1. The best estimate for age in each survey was created, using the two sources. Age derived from date of birth was the preferred information, since it gave age to the nearest month, but it was deemed less reliable. Thus it was only accepted if it fell within one year of the age given, or if it was validated by an accepted form of ID
2. Baseline age was back-corrected if the individual was in both surveys and if follow-up age was known to the nearest month. This was done by subtracting the time elapsed between the interviews from the follow-up age.
3. Follow-up age was forward corrected if the individual was in both surveys and if baseline age was known to the nearest month but follow-up age was not.
4. Further backward and forwarding corrections took place when neither age was accurate to the nearest month. However, such corrections are not relevant here, since these cases are dropped from anthropometric analysis.

The follow-up survey covered 1,333 children, whose final age was 0 to 60 months. Of these, 908 (68.1 per cent) of ages came from the date of birth given at least to the nearest month in follow-up, 148 (11.1 per cent) came from the date of birth given at least to the nearest month in the baseline, leaving 277 (20.8 per cent) without an age to the nearest month and, hence, dropped from the anthropometric analysis.

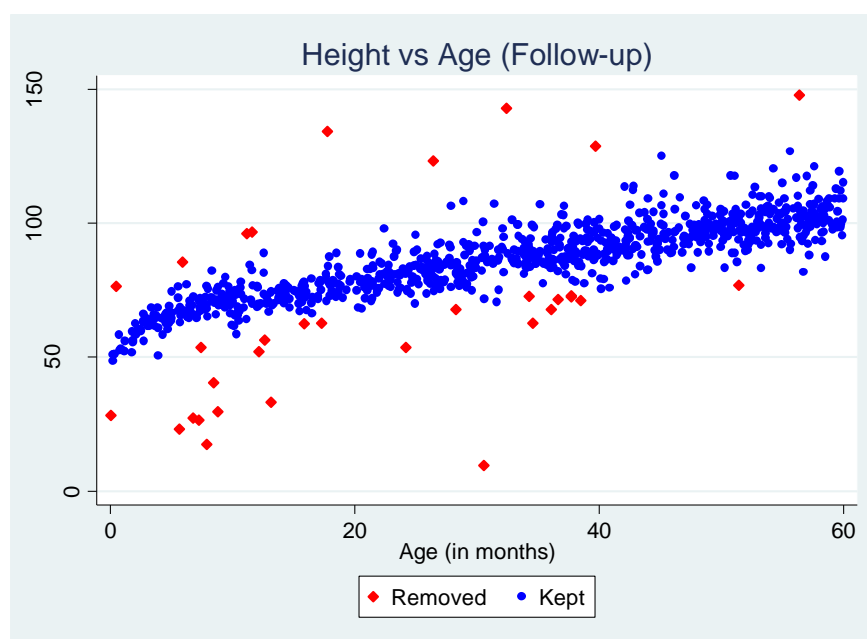
Baseline had 1,674 children whose final age was 0 to 60 months. Of these, 667 (39.8 per cent) ages came from the date of birth given in the baseline survey, 673 (40.2 per cent) came from the follow-up the date of birth, leaving 334 (20.0 per cent) without an age to the nearest month and, hence, dropped from the anthropometric analysis.

This meant that we had age information to the nearest month for 1,056 (79.2 per cent) of follow-up 0 to 60 month olds and 1,340 (80.0 per cent) of baseline survey 0 to 60 month olds.

In the follow-up data, height and weight were each measured twice. The average of the two measurements was taken for differences of less than 5cm or 5kg respectively. For the remaining cases, the data were examined. One observation was taken in favour of the other if one was clearly a data entry error; otherwise, the measure was set to missing.

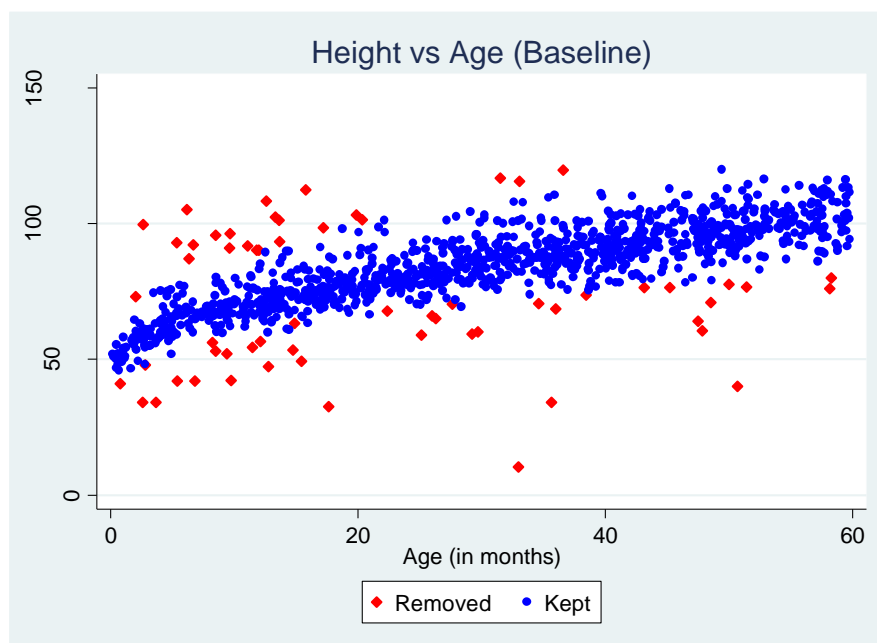
The following scatter graphs show our distributions of height and weight by age in both surveys. Diamonds indicate observations that are flagged as being implausible by the WHO software, and which were thus removed from the anthropometric analysis.

Figure D.1 Height in cm (follow-up)



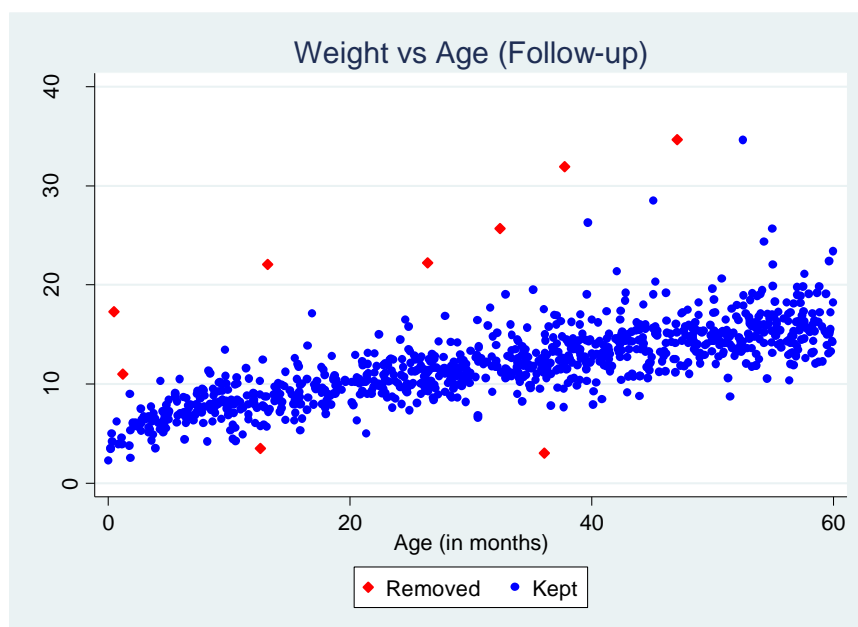
Source: OPM CT-OVC evaluation follow-up data (2009).

Figure D.2 Height in cm (baseline)

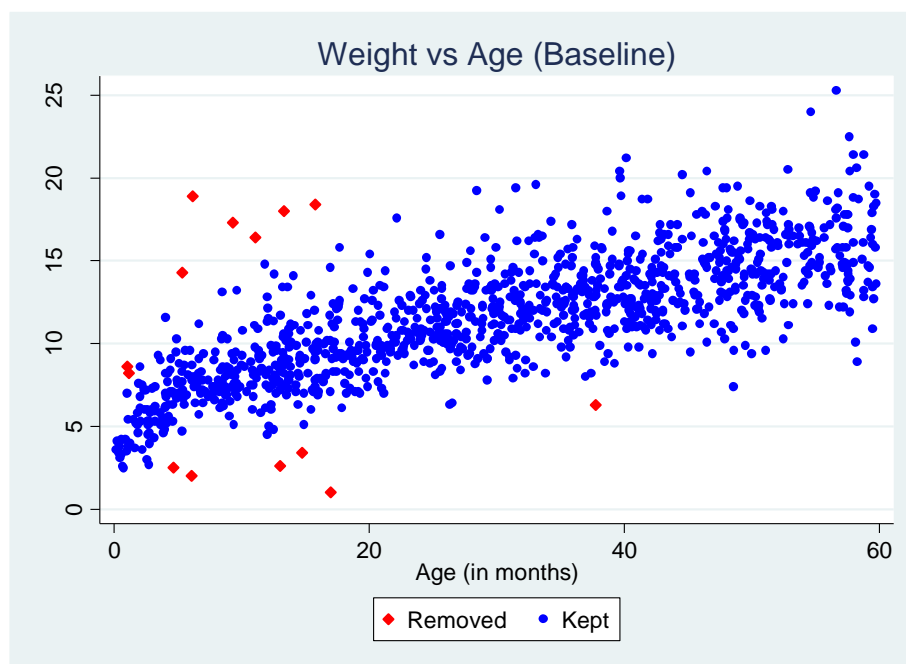


Source: OPM CT-OVC evaluation baseline data (2007).

Figure D.3 Weight in kg (follow-up)



Source: OPM CT-OVC evaluation follow-up data (2009).

Figure D.4 Weight in kg (baseline)

Source: OPM CT-OVC evaluation baseline data (2007).

D.2 Calculating anthropometric indicators

Standard anthropometric z-scores were calculated for the cases where the required measurements were present, using macros made available by the WHO.⁷⁵ These z-scores are based on the new WHO Child Growth Standards. The standards were released in April 2006 and are the result of the WHO Multicentre Growth Reference Study. They differ from previous growth charts in that they are a truly international standard, based on samples from six countries, and in that they describe how children *should* grow, assuming correct feeding practices, good health care and a healthy environment.⁷⁶

Height and weight information was collected for children aged 0 to 5 years in the baseline survey and children aged 0 to 7 years in the follow-up survey. Z-scores were calculated for children aged between 0 and 60 months. No anthropometric indices were calculated if sex was unknown or miscoded, because there are separate growth reference curves for males and females. If weight was unknown, only height for age (HA) is calculated; if height was unknown, only weight for age (WA) is calculated; and if age was unknown, only weight for height (WH) is calculated.

The preferred anthropometric indices for determining nutritional status are weight for height and height for age, as these discriminate between different physiological and biological processes.⁷⁷

⁷⁵ <http://www.who.int/childgrowth/software/en/>

⁷⁶ More information on the WHO Child Growth Standards is available from http://www.who.int/childgrowth/1_what.pdf

⁷⁷ WHO (1986); WHO (1994).

Low weight for height (thinness or wasting) is considered an indicator of acute under-nutrition, and is generally associated with failure to gain weight or a loss of weight. Low height for age (shortness or stunting) is considered an indicator of chronic under-nutrition, which is frequently associated with poor overall economic conditions and/or repeated exposure to adverse conditions. Weight for age is primarily a composite of weight for height and height for age, and fails to distinguish tall, thin children from short, well-proportioned children.

The z-score in the reference population has a normal distribution with a mean of zero and standard deviation of one. The z-score cut-off point recommended by the WHO and others to classify low anthropometric levels is two standard deviation (SD) units below the reference median for the three indices. The proportion of the population that falls below a z-score of -2 is generally compared with the reference population in which 2.3 per cent fall below this cut-off. The cut-off for very low anthropometric levels is usually more than three SD units below the median (denoting 'severe' cases).

D.3 Results

Full information for calculating z-scores was available for the following number of observations:

Table D.1 Data for z-score calculations

| | Height-for-age | Weight-for-age | Weight-for-height |
|-----------|----------------|----------------|-------------------|
| Follow-up | 955 | 948 | 1,270 |
| Baseline | 1,142 | 1,142 | 1,393 |

These observations were passed into the WHO macro, producing z-scores for HA, WH and WA. Implausible outliers were discarded for all observations according to WHO recommended boundaries: less than -6 or greater than 6 for HA; less than -6 or greater than 5 for WA; less than -5 or greater than 5 for WH.

In the follow-up survey, 9 (0.95%) observations were dropped for WA, 33 (3.46 per cent) were dropped for HA, and 39 (3.07 per cent) were dropped for WH. In the baseline survey, 19 (1.66 per cent) were dropped for WA, 66 (5.78 per cent) were dropped for HA, and 54 (3.88%) were dropped for WH.

For the follow-up survey, the results revealed that 33 per cent of all sample children were either stunted or severely stunted (13 per cent severe cases); 10 per cent of all sample children were either wasted or severely wasted (3 per cent severe cases); and 22 per cent of all sample children were either underweight or severely underweight (7 per cent severe cases).⁷⁸ 3 per cent of all sample children were both stunted *and* wasted. For the baseline

⁷⁸ Using the old anthropometric standards, the Kenya Demographic and Health Survey (2003) found 30.3 per cent stunting for children aged under five years (11.0 per cent severe); 5.6 per cent wasting (1.2 per cent severe); and 19.9 per cent underweight (4.1 per cent severe) (Central Bureau of Statistics (Kenya), Ministry of Health (Kenya) and ORC Macro (2004)).

The Unicef MICS country-wide report for Kenya (2000) found 35.3 per cent stunting for children aged under five years (14.7 per cent severe); 6.0 per cent wasting (1.4 per cent severe); and 21.2 per cent underweight (5.7 per cent severe) – again, using the old child growth standards. <http://www.childinfo.org/MICS2/newreports/kenya/kenyaTables.PDF>

survey, the results revealed that 39 per cent of all sample children were either stunted or severely stunted (21 per cent severe cases); 8 per cent of all sample children were either wasted or severely wasted (4 per cent severe cases); and 20 per cent of all sample children were either underweight or severely underweight (8 per cent severe cases). 3 per cent of all sample children were both stunted *and* wasted. The (unweighted) proportions of children stunted, wasted and underweight are given in Table D.2 below.

Table D.2 Proportion of children stunted, wasted and underweight, unweighted (%)

| | Stunted | Underweight | Wasted |
|-----------|---------|-------------|--------|
| Follow-up | 33 | 22 | 10 |
| Baseline | 39 | 20 | 8 |

Source: OPM CT-OVC evaluation follow-up data (2009).

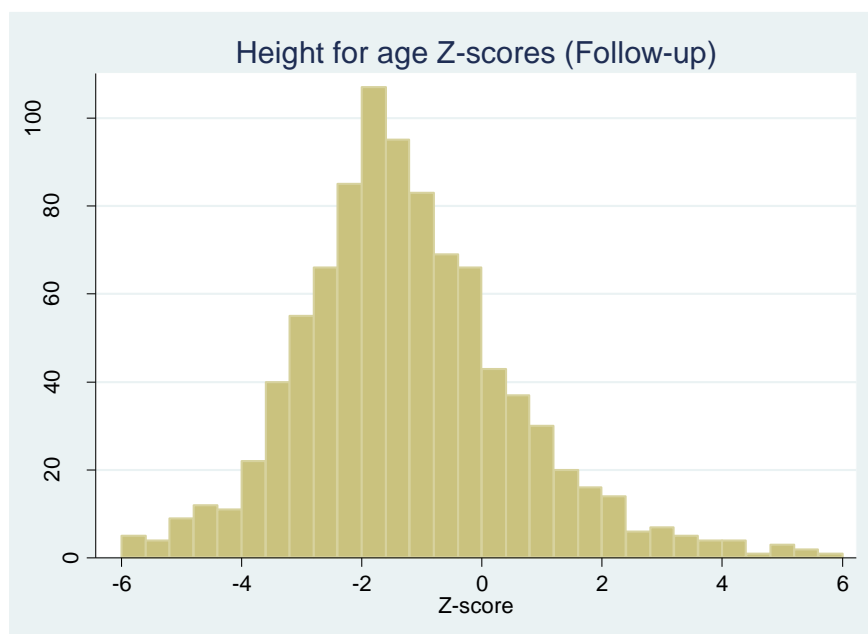
Mean values of z-scores are given in Table D.3. Histograms are given in Figures D.5 to D.10. The mean z-scores are reasonably close to those in the Kenya Demographic and Health Survey (2003), which gave means of -1.2, -0.2 and -0.9, respectively, although these were calculated using the old child growth standards. The variance of the HAZ and WAZ is noticeably lower in the follow-up survey, which might reflect more accurate measurement.

Table D.3 Mean and variance of z-scores for HAZ, WAZ and WHZ, by district

| | HAZ | WHZ | WAZ |
|-----------------|-------|-------|-------|
| Mean | | | |
| Follow-up | -1.23 | -0.33 | -1.02 |
| Baseline | -1.29 | -0.01 | -0.80 |
| Variance | | | |
| Follow-up | 2.70 | 2.28 | 1.90 |
| Baseline | 4.19 | 2.05 | 2.71 |

Source: OPM CT-OVC evaluation baseline and follow-up data (2009).

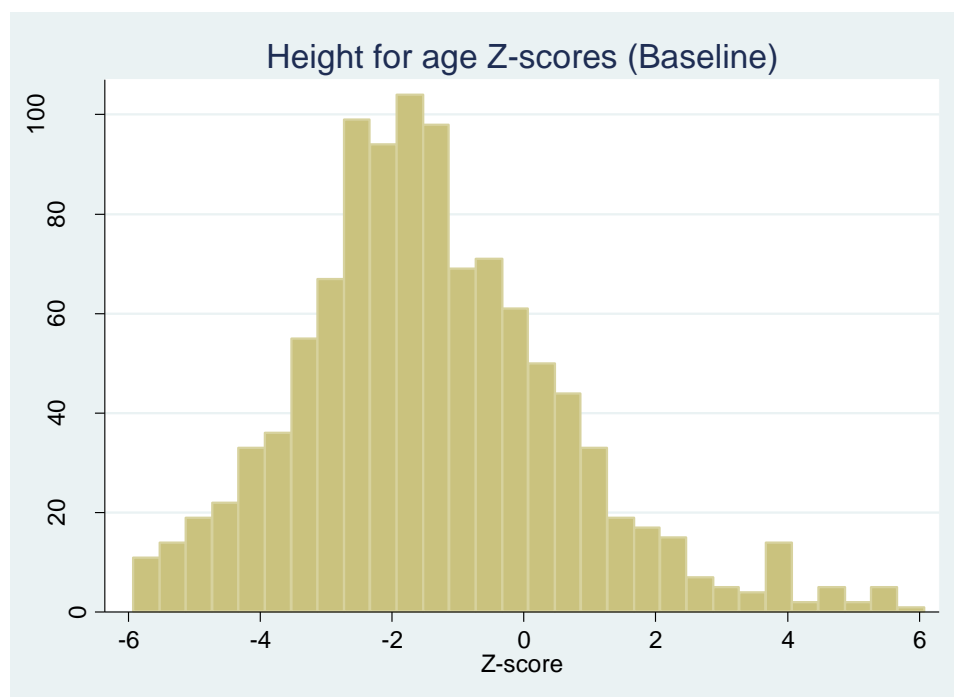
Figure D.5 Height for age z-scores (follow-up)



Source: OPM CT-OVC evaluation follow-up data (2009).

Notes: Severe stunting is reflected in z-scores ≤ -3 .

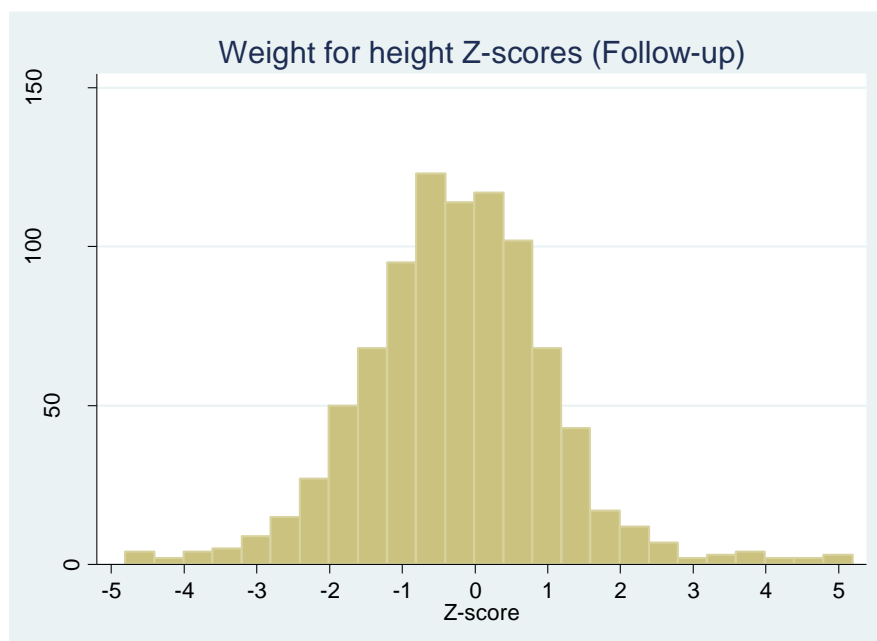
Figure D.6 Height for age z-scores (baseline)



Source: OPM CT-OVC evaluation baseline data (2007).

Notes: Severe stunting is reflected in z-scores ≤ -3 .

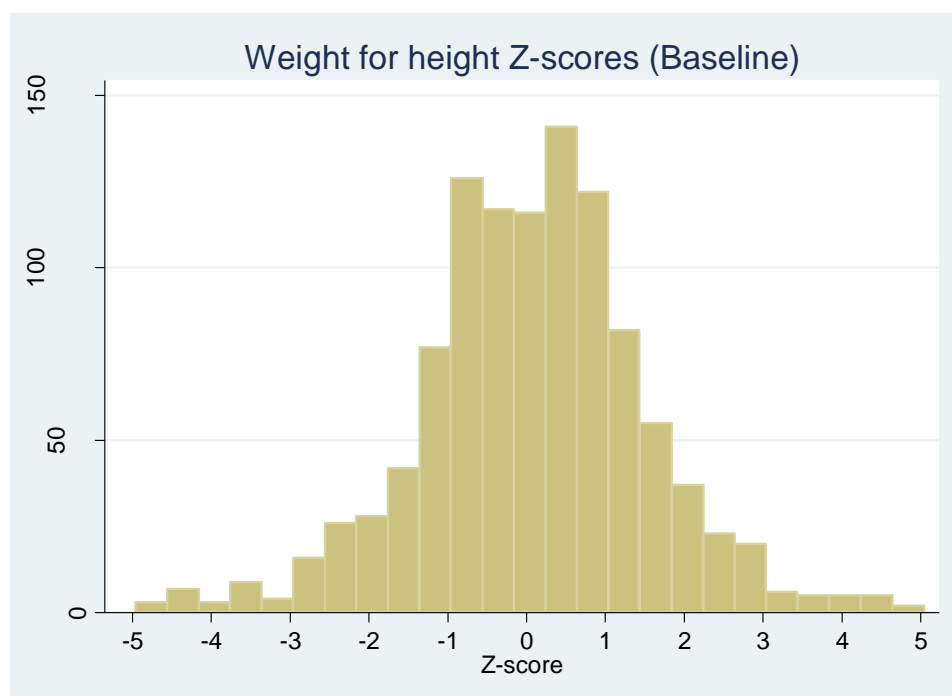
Figure D.7 Weight for height z-scores (follow-up)



Source: OPM CT-OVC evaluation follow-up data (2009).

Notes: Severe wasting is reflected in z-scores ≤ -3 .

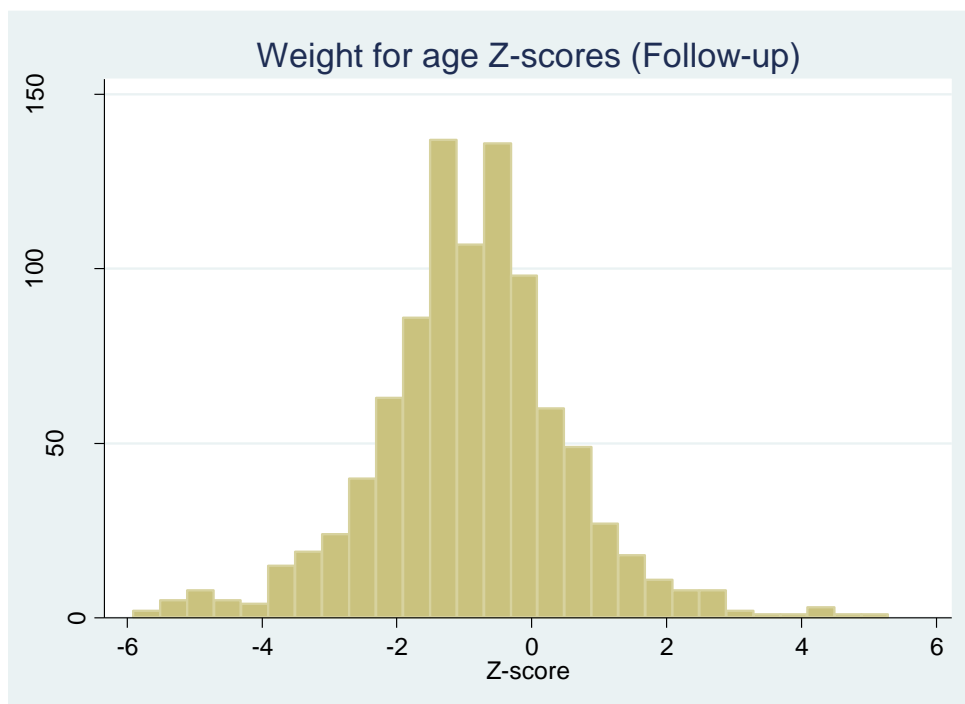
Figure D.8 Weight for height z-scores (baseline)



Source: OPM CT-OVC evaluation baseline data (2007).

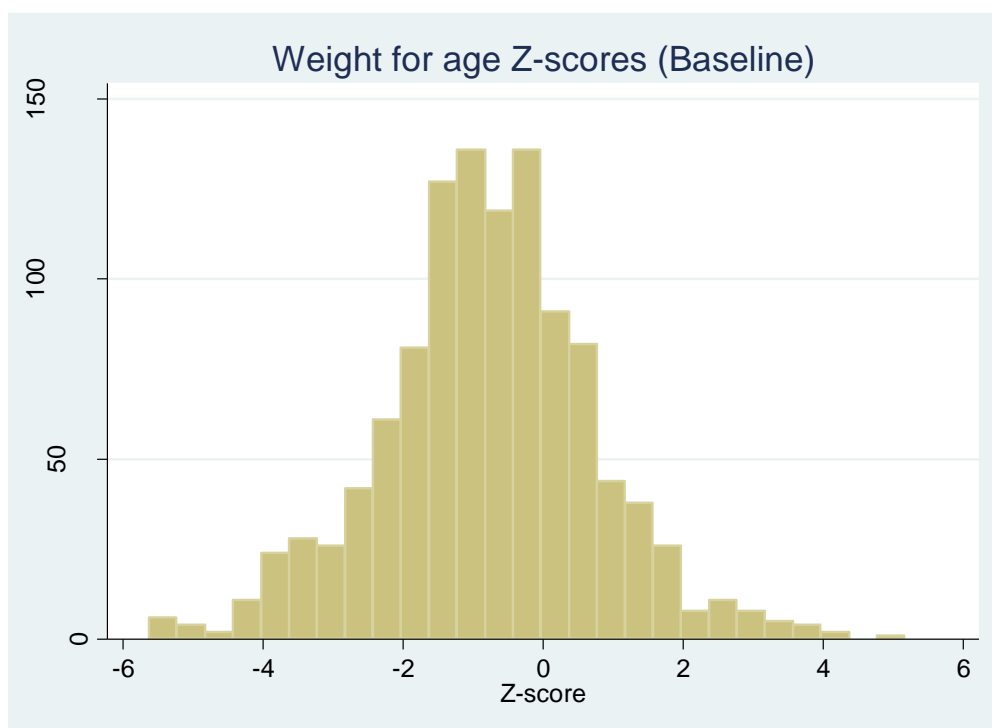
Notes: Severe wasting is reflected in z-scores ≤ -3 .

Figure D.9 Weight for age z-scores (follow-up)



Source: OPM CT-OVC evaluation follow-up data (2009).

Figure D.10 Weight for age z-scores (baseline)



Source: OPM CT-OVC evaluation baseline data (2007).

Annex E Measuring consumption expenditure

E.1 Calculating monthly household consumption expenditure

In order to assess the socio-economic status of OVC households, consumption expenditure information was recorded in the survey questionnaire. The quantity, value and main source(s) of food consumed during the seven days prior to the interview were recorded for an exhaustive list of 19 categories of food items. The value of non-food consumption expenditure was recorded for 41 separate items, covering fuel and energy, clothing and footwear, household and personal care, household furnishings and maintenance, transportation, communication, recreation, house rent, and other. Depending on the item, the value consumed in the preceding one month, three months or 12 months was recorded, as applicable. Some lumpy and infrequent expenditure items were excluded, while consumption flows from durable items could not be estimated.

For each household, an aggregate consumption measure was calculated. All expenditure was expressed in monthly and *per adult equivalent* terms.⁷⁹

⁷⁹ As was used for the KIHBS 2005/06 basic report, the Anzagi–Bernard adult equivalence scale was employed: children aged 0 to 4 years are weighted as 0.24; children aged 5–14 years are weighted as 0.65; and all household members aged 15 years and over are assigned a value of unity.

Table E.1 Mean household consumption expenditure, per adult equivalent and budget shares

| | Baseline (2007) – including attrititors | | | | | | Baseline (2007) – excluding attrititors | | | | | | Follow-up (2009) | | | | | |
|-----------------------------|---|------------------|-------------------------------|------------------|-------------------------------|------------------|---|------------------|-------------------------------|------------------|-------------------------------|------------------|-------------------------------|------------------|-------------------------------|------------------|-------------------------------|------------------|
| | Urban | | Rural | | Overall | | Urban | | Rural | | Overall | | Urban | | Rural | | Overall | |
| | Consumption expenditure (Ksh) | Budget share (%) | Consumption expenditure (Ksh) | Budget share (%) | Consumption expenditure (Ksh) | Budget share (%) | Consumption expenditure (Ksh) | Budget share (%) | Consumption expenditure (Ksh) | Budget share (%) | Consumption expenditure (Ksh) | Budget share (%) | Consumption expenditure (Ksh) | Budget share (%) | Consumption expenditure (Ksh) | Budget share (%) | Consumption expenditure (Ksh) | Budget share (%) |
| Cereals | 301 | 11.1 | 278 | 18.5 | 285 | 15.5 | 272 | 11.0 | 275 | 18.6 | 275 | 15.9 | 583 | 19.2 | 658 | 28.5 | 640 | 25.8 |
| Bread | 80 | 3.0 | 23 | 1.5 | 39 | 2.1 | 67 | 2.7 | 23 | 1.6 | 34 | 2.0 | 97 | 3.2 | 36 | 1.6 | 51 | 2.0 |
| Tubers | 73 | 2.7 | 46 | 3.1 | 54 | 2.9 | 67 | 2.7 | 45 | 3.0 | 50 | 2.9 | 72 | 2.4 | 57 | 2.5 | 61 | 2.4 |
| Poultry | 23 | 0.8 | 30 | 2.0 | 28 | 1.5 | 17 | 0.7 | 29 | 1.9 | 26 | 1.5 | 11 | 0.4 | 32 | 1.4 | 27 | 1.1 |
| Meat | 82 | 3.0 | 32 | 2.1 | 46 | 2.5 | 79 | 3.2 | 31 | 2.1 | 43 | 2.5 | 77 | 2.6 | 82 | 3.6 | 81 | 3.3 |
| Fish | 73 | 2.7 | 68 | 4.5 | 70 | 3.8 | 64 | 2.6 | 67 | 4.5 | 67 | 3.8 | 39 | 1.3 | 78 | 3.4 | 69 | 2.8 |
| Milk and eggs | 107 | 4.0 | 55 | 3.7 | 70 | 3.8 | 107 | 4.4 | 53 | 3.6 | 67 | 3.9 | 133 | 4.4 | 85 | 3.7 | 96 | 3.9 |
| Oil and fats | 69 | 2.6 | 67 | 4.5 | 68 | 3.7 | 62 | 2.5 | 66 | 4.5 | 65 | 3.8 | 104 | 3.4 | 83 | 3.6 | 88 | 3.6 |
| Fruits | 42 | 1.6 | 23 | 1.5 | 28 | 1.5 | 40 | 1.6 | 20 | 1.4 | 25 | 1.5 | 49 | 1.6 | 36 | 1.6 | 39 | 1.6 |
| Vegetables | 111 | 4.1 | 129 | 8.6 | 124 | 6.8 | 106 | 4.3 | 132 | 8.9 | 125 | 7.2 | 159 | 5.2 | 141 | 6.1 | 145 | 5.9 |
| Pulses | 68 | 2.5 | 48 | 3.2 | 54 | 2.9 | 73 | 2.9 | 49 | 3.3 | 55 | 3.2 | 127 | 4.2 | 125 | 5.4 | 125 | 5.0 |
| Sugar | 103 | 3.8 | 99 | 6.6 | 100 | 5.4 | 102 | 4.2 | 97 | 6.5 | 98 | 5.7 | 115 | 3.8 | 134 | 5.8 | 129 | 5.2 |
| Non-alcoholic beverages | 20 | 0.7 | 15 | 1.0 | 17 | 0.9 | 19 | 0.8 | 15 | 1.0 | 16 | 0.9 | 28 | 0.9 | 29 | 1.2 | 29 | 1.2 |
| Alcohol | 2 | 0.1 | 3 | 0.2 | 3 | 0.2 | 1 | 0.1 | 3 | 0.2 | 3 | 0.2 | 1 | 0.0 | 3 | 0.1 | 2 | 0.1 |
| Restaurants | 22 | 0.8 | 4 | 0.3 | 9 | 0.5 | 9 | 0.4 | 5 | 0.3 | 6 | 0.3 | 3 | 0.1 | 3 | 0.1 | 3 | 0.1 |
| Spices and condiments | 10 | 0.4 | 10 | 0.7 | 10 | 0.5 | 10 | 0.4 | 10 | 0.7 | 10 | 0.6 | 8 | 0.3 | 13 | 0.6 | 12 | 0.5 |
| Tobacco | 3 | 0.1 | 6 | 0.4 | 5 | 0.3 | 4 | 0.2 | 5 | 0.3 | 5 | 0.3 | 8 | 0.2 | 4 | 0.2 | 5 | 0.2 |
| Water | 42 | 1.6 | 32 | 2.1 | 35 | 1.9 | 46 | 1.9 | 33 | 2.2 | 36 | 2.1 | 45 | 1.5 | 22 | 1.0 | 27 | 1.1 |
| Fuels | 223 | 8.3 | 179 | 11.9 | 191 | 10.4 | 205 | 8.3 | 175 | 11.8 | 182 | 10.5 | 194 | 6.4 | 197 | 8.6 | 197 | 7.9 |
| Clothing and footwear | 138 | 5.1 | 59 | 3.9 | 81 | 4.4 | 127 | 5.1 | 59 | 4.0 | 76 | 4.4 | 94 | 3.1 | 90 | 3.9 | 91 | 3.7 |
| Household and personal care | 118 | 4.4 | 59 | 3.9 | 75 | 4.1 | 110 | 4.4 | 58 | 3.9 | 71 | 4.1 | 150 | 4.9 | 92 | 4.0 | 105 | 4.3 |
| Furnishings and maintenance | 20 | 0.7 | 9 | 0.6 | 12 | 0.7 | 13 | 0.5 | 9 | 0.6 | 10 | 0.6 | 14 | 0.5 | 14 | 0.6 | 14 | 0.6 |

Kenya CT-OVC Programme – Operational and Impact Evaluation: 2007–2009

| | | | | | | | | | | | | | | | | | | |
|----------------|-------|------|-------|-----|-------|-----|-------|------|-------|-----|-------|-----|-------|------|-------|-----|-------|-----|
| Transportation | 204 | 7.6 | 76 | 5.0 | 112 | 6.1 | 194 | 7.9 | 75 | 5.1 | 105 | 6.1 | 116 | 3.8 | 67 | 2.9 | 79 | 3.2 |
| Communication | 66 | 2.4 | 17 | 1.1 | 31 | 1.7 | 65 | 2.6 | 17 | 1.1 | 29 | 1.7 | 56 | 1.8 | 28 | 1.2 | 35 | 1.4 |
| Recreation | 25 | 0.9 | 6 | 0.4 | 11 | 0.6 | 23 | 0.9 | 4 | 0.3 | 9 | 0.5 | 21 | 0.7 | 7 | 0.3 | 10 | 0.4 |
| House rent | 358 | 13.2 | 3 | 0.2 | 102 | 5.6 | 274 | 11.1 | 1 | 0.1 | 70 | 4.0 | 364 | 12.0 | 4 | 0.2 | 88 | 3.6 |
| Education | 210 | 7.8 | 72 | 4.8 | 110 | 6.0 | 210 | 8.5 | 70 | 4.7 | 106 | 6.1 | 287 | 9.4 | 116 | 5.0 | 156 | 6.3 |
| Health | 99 | 3.7 | 50 | 3.3 | 64 | 3.5 | 93 | 3.8 | 54 | 3.6 | 64 | 3.7 | 81 | 2.7 | 71 | 3.1 | 73 | 2.9 |
| TKK | 7 | 0.2 | 3 | 0.2 | 4 | 0.2 | 5 | 0.2 | 3 | 0.2 | 4 | 0.2 | 1 | 0.0 | 1 | 0.1 | 1 | 0.1 |
| Total | 2,701 | | 1,500 | | 1,837 | | 2,466 | | 1,484 | | 1,731 | | 3,037 | | 2,309 | | 2,479 | |

Source: OPM CT-OVC evaluation baseline data (2007).

Notes: Consumption expenditure presented here is in nominal terms; that is, has not been adjusted to reflect price differences across districts or over time (intra-survey inflation). Rent expenditure is included in these totals.

E.2 Comparative socio-economic status of OVC households

It is expected that poverty levels amongst OVC households will differ across the seven districts in which the evaluation is taking place. Table E.2 shows clearly that this is the case. Furthermore, the OVC households in the rural evaluation locations are more likely to be poor than those in urban locations. As expected, the OVC households in the Nairobi sub-locations are relatively better-off than all others, even after adjusting for regional price differences.

Real monthly consumption expenditure was calculated using a Paasche price index to adjust for regional price variations and excluding rent expenditures (see sub-section E.3 for the justification of exclusion of rent expenditures). The Paasche index was constructed using data from both the household and community questionnaires relating to the price of 20 different items (mainly food items, but also some non-food items) and relative budget shares. The list of included prices is the following:

- | | |
|---|------------------------|
| 1. Maize flour (sifted) – 1kg | 11. Beef – 1kg |
| 2. Rice – 1kg | 12. Chicken – No |
| 3. Other grains – 1kg | 13. Milk – 1 litre |
| 4. Bread – No | 14. Banana – No |
| 5. Potato (Irish) – 1kg | 15. Cooking fat – 1kg |
| 6. Sweet potatoes and other tubers – No | 16. Sugar – 1kg |
| 7. Beans – 1kg | 17. Salt – 1kg |
| 8. Other pulses – 1kg | 18. Tea leaves – 100gr |
| 9. Eggs – No | 19. Soap – 1 bar |
| 10. Fresh fish – No | 20. Paraffin – 1 litre |

The budget shares used to calculate the weights applied the prices of the 20 items listed above to the following consumption groups. The overall average coverage of the consumption expenditure on these groups is about 60 per cent.

- | | |
|------------------------------------|-------------------------------|
| 1. Maize (grain and flour) | 17. Spices |
| 2. Rice | 18. Tea |
| 3. Other grains | 19. Soap and other toiletries |
| 4. Bread | 20. Paraffin and charcoal |
| 5. Potato (Irish) | |
| 6. Sweet potatoes and other tubers | |
| 7. Beans | |
| 8. Other pulses | |
| 9. Eggs | |
| 10. Fish (fresh and dried) | |
| 11. Beef | |
| 12. Chicken and other meat | |
| 13. Milk | |
| 14. Banana and other fruits | |
| 15. Cooking fat and oils | |
| 16. Sugar | |

Table E.2 Consumption and asset indicators

| | Baseline – including attritors (2007) | | | Baseline – excluding attritors (2007) | | | Follow-up (2009) | | |
|--|---------------------------------------|------------|------------|---------------------------------------|------------|------------|------------------|------------|------------|
| | Urban | Rural | Overall | Urban | Rural | Overall | Urban | Rural | Overall |
| Distribution of study population (weighted): | | | | | | | | | |
| Proportion of households (%) | 26 | 74 | 100 | 23 | 77 | 100 | 21 | 79 | 100 |
| Consumption expenditure: | | | | | | | | | |
| Mean monthly real consumption expenditure per adult equivalent (Ksh) | 2,613 | 1,546 | 1,828 | 2,436 | 1,553 | 1,757 | 2,098 | 1,671 | 1,762 |
| Proportion of households living on less than \$1 a day (%) | 13 | 35 | 29 | 16 | 33 | 29 | 20 | 22 | 22 |
| Proportion of households living on less than \$2 a day (%) | 55 | 84 | 76 | 59 | 84 | 78 | 68 | 83 | 80 |
| Distribution of OVC households by baseline quintile: (%) | | | | | | | | | |
| Quintile 1 (less well-off) | 10 | 24 | 20 | 12 | 24 | 21 | 11 | 14 | 13 |
| Quintile 2 | 11 | 23 | 20 | 9 | 23 | 20 | 16 | 21 | 20 |
| Quintile 3 | 16 | 21 | 20 | 15 | 21 | 19 | 25 | 28 | 27 |
| Quintile 4 | 22 | 19 | 20 | 26 | 21 | 22 | 19 | 24 | 23 |
| Quintile 5 (better-off) | 42 | 12 | 20 | 37 | 12 | 18 | 28 | 13 | 16 |
| Household characteristics: | | | | | | | | | |
| Median household size | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 5 | 5 |
| Median number of rooms occupied by household | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Proportion of OVC households that contain no adults that have reached Education Standard 8 (%) | 15 | 42 | 35 | 17 | 44 | 37 | 12 | 40 | 34 |
| Household dwelling – proportion of OVC households with: (%) | | | | | | | | | |
| Poor quality walls (mud/cow dung/grass/sticks) | 34 | 83 | 70 | 41 | 84 | 74 | 36 | 86 | 75 |
| Poor quality roof (mud/cow dung/grass/sticks) | 13 | 22 | 20 | 20 | 20 | 20 | 15 | 18 | 18 |
| Poor quality floor (mud/cow dung) | 23 | 72 | 59 | 25 | 72 | 61 | 21 | 70 | 60 |
| Main source of cooking fuel is firewood or residue/animal waste/grass | 29 | 94 | 77 | 37 | 94 | 81 | 32 | 95 | 82 |
| Main source of lighting fuel is electricity | 51 | 2 | 15 | 47 | 1 | 12 | 47 | 1 | 11 |
| No toilet (toilet is of type none/pan/bucket) | 13 | 56 | 44 | 19 | 57 | 48 | 11 | 53 | 44 |
| Main source of drinking water during the dry season is river, lake or pond | 10 | 59 | 46 | 9 | 59 | 48 | 4 | 51 | 41 |
| Household assets – proportion of OVC households that own: (%) | | | | | | | | | |
| Real estate (including dwelling) | 27 | 94 | 76 | 32 | 93 | 79 | 47 | 94 | 84 |
| Farming land | 39 | 93 | 78 | 39 | 94 | 81 | 46 | 92 | 82 |
| Livestock | 31 | 84 | 70 | 34 | 84 | 72 | 35 | 83 | 73 |
| Radio | 57 | 47 | 50 | 55 | 46 | 48 | 54 | 54 | 54 |
| Telephone/mobile | 62 | 13 | 26 | 58 | 12 | 23 | 73 | 34 | 42 |
| Bucket/ basin | 97 | 87 | 89 | 97 | 87 | 90 | 98 | 92 | 94 |
| Table | 90 | 85 | 87 | 90 | 86 | 87 | 89 | 87 | 88 |
| Chair or wooden stool | 96 | 90 | 92 | 99 | 92 | 93 | 93 | 93 | 93 |
| Bed linen | 98 | 82 | 86 | 97 | 83 | 86 | 93 | 85 | 87 |
| Blankets | 89 | 85 | 86 | 84 | 87 | 86 | 84 | 88 | 87 |
| Mosquito net | 70 | 70 | 70 | 67 | 70 | 69 | 71 | 82 | 80 |
| N = # OVC households (unweighted) | 464 | 2,1 | 2,6 | 35 | 1,8 | 2,1 | 32 | 1,8 | 2,1 |

| | Baseline – including attritors (2007) | | | Baseline – excluding attritors (2007) | | | Follow-up (2009) | | |
|--|---------------------------------------|-------|---------|---------------------------------------|-------|---------|------------------|-------|---------|
| | Urban | Rural | Overall | Urban | Rural | Overall | Urban | Rural | Overall |
| | | 84 | 48 | 1 | 08 | 59 | 8 | 31 | 59 |

Source: OPM CT-OVC evaluation baseline data (2007).

Notes: (1) Real consumption expenditure per adult equivalent has been estimated by adjusting nominal expenditure for price differences across districts using a Paasche price index constructed using survey data from the household and community surveys. Follow-up (2009) values have been deflated using an estimate of evaluation location specific intra-survey inflation (1.467), calculated by comparing prices and budget shares between baseline and follow-up surveys. (2) In order to enable valid inter-district comparison, rent has been excluded from the calculation of mean monthly real consumption expenditure. (3) Quintiles were defined over all evaluation locations using estimates of real consumption expenditure per adult equivalent such that each quintile contained 20 per cent of the OVC households at baseline, including attritors. Due to targeting errors, a small number of non-OVC households were included in the study population. These households were excluded in the estimation of the quintile cut-offs. (4) An income of \$1 a day translates to a real consumption expenditure per adult equivalent of Ksh 1,133.5 per month, using the World Bank's most recent PPP exchange rate (2005) adjusted for inflation since 2005. (5) Note that the figures in this table are for all OVC households across both Programme and control areas.

Table E.3 Asset indicators by consumption quintile (baseline)

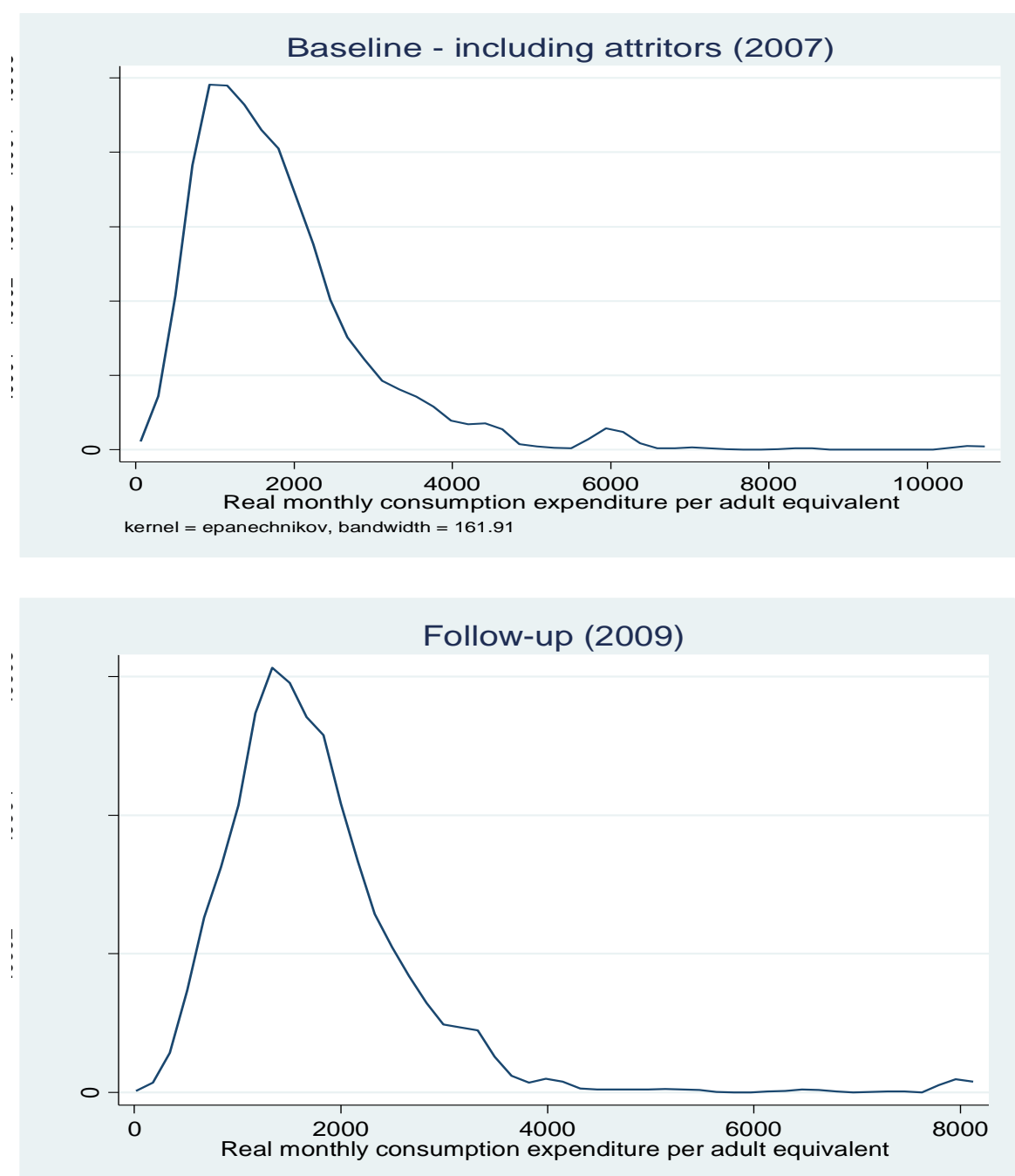
| | Quintile 1 (less wel- off) | Quintile 2 | Quintile 3 | Quintile 4 | Quintile 5 (better-off) | All OVC house- holds in evaluation locations |
|--|-------------------------------|------------|------------|------------|----------------------------|--|
| Distribution of study population (weighted): | | | | | | |
| Proportion of households (%) | 20 | 20 | 20 | 20 | 20 | 100 |
| Consumption expenditure: | | | | | | |
| Mean monthly real consumption expenditure per adult equivalent (Ksh) | 712 | 1,138 | 1,571 | 2,088 | 3,637 | 1,828 |
| Proportion of households living on less than \$1 a day (%) | 100 | 44 | 0 | 0 | 0 | 29 |
| Proportion of households living on less than \$2 a day (%) | 100 | 100 | 100 | 80 | 0 | 76 |
| Household characteristics: | | | | | | |
| Median household size | 6 | 5 | 5 | 5 | 5 | 5 |
| Median number of rooms occupied by household | 2 | 2 | 2 | 2 | 2 | 2 |
| Proportion of OVC households which contains no adults that have reached Education Standard 8 (%) | 42 | 42 | 37 | 35 | 19 | 35 |
| Household dwelling – proportion of OVC households with (%) | | | | | | |
| Poor quality walls (mud/cow dung/grass/sticks) | 85 | 81 | 79 | 63 | 44 | 70 |
| Poor quality roof (mud/cow dung/grass/sticks) | 32 | 26 | 18 | 13 | 11 | 20 |
| Poor quality floor (mud/cow dung) | 74 | 69 | 65 | 52 | 35 | 59 |
| Main source of cooking fuel is firewood or residue/animal waste/grass | 94 | 89 | 83 | 71 | 46 | 77 |
| Main source of lighting fuel is electricity | 2 | 4 | 10 | 20 | 39 | 15 |
| No toilet (toilet is of type none/pan/bucket) | 56 | 50 | 55 | 35 | 26 | 44 |
| Main source of drinking water during the dry season is river, lake or pond | 48 | 53 | 53 | 51 | 24 | 46 |
| Household assets – proportion of OVC households that own (%): | | | | | | |
| Real estate (including dwelling) | 90 | 86 | 81 | 72 | 50 | 76 |
| Farming land | 87 | 87 | 80 | 79 | 60 | 78 |
| Livestock | 76 | 83 | 76 | 66 | 49 | 70 |
| Radio | 42 | 42 | 43 | 54 | 67 | 50 |
| Telephone/mobile | 7 | 10 | 22 | 35 | 55 | 26 |
| Bucket/basin | 80 | 84 | 91 | 96 | 97 | 89 |
| Table | 75 | 84 | 89 | 96 | 90 | 87 |
| Chair or wooden stool | 83 | 90 | 95 | 97 | 95 | 92 |
| Bed linen | 76 | 81 | 85 | 92 | 97 | 86 |
| Blankets | 74 | 81 | 86 | 96 | 93 | 86 |
| Mosquito net | 64 | 69 | 65 | 74 | 78 | 70 |
| N = # OVC households (unweighted) | 614 | 634 | 565 | 461 | 374 | 2,648 |

Source: OPM CT-OVC evaluation baseline data (2007).

Notes: (1) Real consumption expenditure per adult equivalent has been estimated by adjusting nominal expenditure for price differences across districts using a Paasche price index constructed using survey data from the household and community surveys. Follow-up (2009) values have been deflated using an estimate of evaluation location specific intra-survey inflation (1.467), calculated by comparing prices and budget shares between baseline and follow-up surveys. (2) In order to enable valid inter-district comparison, rent has been excluded from the calculation of mean monthly real consumption expenditure. (3) Quintiles were defined over all evaluation locations using estimates of real consumption expenditure per adult equivalent, such that each quintile

contained 20 per cent of the OVC households at baseline, including attritors. Due to targeting errors, a small number of non-OVC households were included in the study population. These households were excluded in the estimation of the quintile cut-offs. (4) An income of \$1 a day translates to a real consumption expenditure per adult equivalent of Ksh 1,133.5 per month using the World Bank's most recent PPP exchange rate (2005) adjusted for inflation since 2005. (5) Note that the figures in this table are for all OVC households across both Programme and control areas.

Figure E.1 Distribution of real consumption expenditure per adult equivalent: ull sample, all evaluation locations



Source: OPM CT-OVC evaluation baseline data (2007).

Notes: (1) Kernel density estimated using the Epanechnikov kernel with an ‘optimal’ half-width. (2) Real consumption expenditure per adult equivalent has been estimated by adjusting nominal expenditure for price differences across districts using a Paasche price index constructed using survey data from the household and community surveys. Follow-up (2009) values have been deflated using an estimate of evaluation location specific intra-survey inflation (1.467), calculated by comparing prices and budget shares between baseline and follow-up surveys. (3) In order to enable valid inter-district comparison, rent has been excluded from the calculation of mean monthly real consumption expenditure.

After some work on estimating imputed rents, it was decided to exclude rent – actual and imputed – from the consumption aggregates. This was because rural estimates were not considered reliable, given the very limited market in those areas, and comparisons are more reliable if they are excluded from all areas.

E.3 Quintile and tercile cut-offs

The (price-adjusted) quintile and (nominal) location tercile cut-offs outlined in the main text are presented below.

Table E.4 Real monthly consumption expenditure per adult equivalent quintile cut-offs: All OVC households in evaluation locations (Ksh – 2007 prices)

| | P. 20 | P. 40 | P. 60 | P. 80 |
|--------------------------------|-------|-------|-------|-------|
| Baseline – including attritors | 931 | 1,335 | 1,800 | 2,427 |
| Baseline – excluding attritors | 923 | 1,325 | 1,807 | 2,322 |
| Follow-up | 1,115 | 1,414 | 1,776 | 2,278 |

Source: OPM CT-OVC evaluation baseline data (2007).

Notes: (1) The quintile cut-offs are based on consumption expenditure expressed in monthly adult equivalent terms. (2) Real consumption expenditure per adult equivalent has been estimated by adjusting nominal expenditure for price differences across districts using a Paasche price index constructed using survey data from the household and community surveys. Follow-up (2009) values have been deflated using an estimate of evaluation location specific intra-survey inflation (1.467), calculated by comparing prices and budget shares between baseline and follow-up surveys. (3) The quintiles were calculated over all evaluation locations, such that each quintile contains 20 per cent of the study population (households containing OVCs at baseline).

Table E.5 Nominal monthly consumption expenditure per adult equivalent tercile cut-offs, by treatment location (Ksh)

| District | Location | P. 33 | P. 66 | N |
|----------|---------------|-------|-------|-----|
| Nairobi | Dandora B | 2,454 | 3,308 | 118 |
| | Kirigu | 1,686 | 2,671 | 106 |
| Homabay | E Kanyada | 963 | 1,570 | 100 |
| | West Kabuoch | 951 | 1,678 | 107 |
| Migori | L. Kanyamkago | 1,066 | 1,607 | 180 |
| | N. Sakwa | 1,189 | 1,819 | 220 |
| Kisumu | West Kisumu | 1,755 | 2,826 | 166 |
| | Otwenya | 1,233 | 1,663 | 150 |
| Suba | Gwasssi South | 1,138 | 1,697 | 133 |
| | Rusinga East | 1,527 | 2,149 | 135 |
| Kwale | Mwatate | 635 | 1,081 | 68 |
| | Msambweni | 1,011 | 1,909 | 75 |
| Garissa | Saka | 351 | 1,402 | 68 |
| | Goreale | 880 | 1,269 | 98 |

Source: OPM CT-OVC evaluation baseline data (2007).

Notes: Location consumption terciles were defined by location using estimates of (nominal) consumption expenditure per adult equivalent, such that each tercile contained a third of OVC households in each location.

E.4 Comparison with the international norms

Estimates are presented of the proportion of households whose consumption falls below \$1 and \$2 per day. The cut-off for these estimates was calculated using the most recent (2005) PPP conversion factor and adjusting for inflation. The monthly \$1 poverty line is Ksh 1,133.5. It should be noted that these estimates cannot be reliably compared with similar estimates for other populations from other sources, as they will be sensitive to data collection methods and the composition of consumption aggregate. Amongst other things, the consumption aggregate used in this analysis excludes rent and is expressed per adult equivalent, whereas other analyses often use per capita measures. In addition, PPP exchange rates are calculated for the national consumption pattern, but the study deals with a sub-group that might have a distinctive consumption pattern and household composition. This might also affect the comparability of these figures. They provide, only, broadly indicative information on the levels of poverty in the population studied.

E.5 Comparability with the KIHBS, 2005/06

In order to understand whether the OVC households covered by the evaluation are poor or wealthy on a national scale, it would be necessary to compare their position relative to the national distribution of basic background variables (such as parental education and housing features) and the level of household consumption (which is used to measure income poverty). The most recent nationally representative survey is the KIHBS, 2005–06. However, it is difficult to be confident that such comparisons would be reliable.

Every effort was made to maximise the comparability of the data collected in the CT-OVC evaluation household survey with those of previous national household budget surveys. The consumption module was designed based on data of the 1997 Welfare Monitoring Survey, but also considering the KIHBS questionnaire. The two questionnaires have clearly different objectives, so efforts were made to make the two sets of results comparable within what was possible, given the specific requirements of the CT-OVC evaluation survey. However, comparability is limited by the fact that it was not feasible to have a diary component in the CT-OVC questionnaire; also, the consumption module inevitably had to be much shorter than that in the KIHBS questionnaire. Furthermore, for some of the questions on housing and household characteristics, the priority was to match the questions asked by the Programme to determine eligibility rather than the questions in the KIHBS (although they often only varied slightly).

Notwithstanding the above efforts, it is difficult to ensure that actual data are comparable. Differences could be still due to questionnaire design, or field procedures and specific definitions adopted by the two surveys; or the specific composition of the consumption aggregate (including the exclusion of rent in this analysis, which will reduce the value of the aggregate). Furthermore, the 2005/06 KIHBS report suggests that price adjustments and consumption calculations were done differently in urban and rural areas, as if urban and rural areas of Kenya were essentially two different countries. Therefore, the methodology adopted by the Kenyan Central Bureau of Statistics is different from that used for the CT-OVC evaluation. In addition, since the CT-OVC evaluation survey is not a national survey it is not possible to establish how prices in the evaluation locations differ from average prices in the country (or rural/urban areas). Access to the KIHBS 2005–06 microdata might allow a more informed comparison of the two datasets, but the KIHBS 2005–06 is not currently available.

With these caveats in mind, Table E.6 presents a crude comparison of poverty estimates based on KHBS and the evaluation sample, for information. The poverty lines have been

adjusted for inflation using the official consumer price index (CPI) from the Kenyan Central Bureau of Statistics (all urban areas). This assumes that, although there might be different levels of prices in urban and rural areas, their increase over time is the same (which may not be the case). The table suggests that about one third of OVC households and around 43 per cent of recipients fall below the lower poverty line. This comparison table is not presented in the main text due to the methodological concerns outlined in the preceding paragraph.

Table E.6 Proportion of households below the national poverty line

| | CT-OVC Programme evaluation baseline survey (OVC households including attrititors) ¹ | | | | KIHBS 2005–06 (all households) | | |
|------------------------------------|---|-------------------|--------------|-----------------|--------------------------------|-------|-------|
| | Treatment locations | Control locations | Whole sample | Recipients only | Urban | Rural | Total |
| Overall poverty line | 74 | 67 | 70 | 77 | 27 | 42 | 38 |
| Hardcore poverty line ² | 37 | 35 | 36 | 43 | 6 | 18 | 15 |

Source: OPM CT-OVC evaluation baseline data and KIBHS report.

Notes: (1) KIHBS 2005–06 poverty lines have been adjusted for inter-survey inflation in order to be expressed in 2007 prices (multiplied by a factor of 1.163). (2) A household is defined as hardcore poor if its overall monthly consumption expenditure per adult equivalent is below the food poverty line. (3) In 2005–06 prices, the poverty lines were as follows: the food poverty line was Ksh 988 in rural areas, and Ksh 1,474 in urban areas; the overall poverty line was Ksh 1,562 in rural areas and Ksh 2,913 in urban areas. These poverty lines are expressed in monthly adult equivalent terms.

Annex F Impact evaluation: Details of model-based approach and results

In this section, we present further details on the statistical modelling approach that has been used to analyse the effect of the Programme (sub-section F.1), together with full details on the results obtained (sub-section F.2).

F.1 Modelling approach

We are interested in providing an estimate of the effect of the Programme on the group of households that have been exposed to the intervention for a sufficiently long time for the expected impacts to accrue: the As.⁸⁰ This consists in identifying what is normally defined in the impact evaluation literature as the *average treatment effect on the treated* (ATT).⁸¹ Providing an unbiased and consistent estimate of the ATT is not a straightforward task, even in a randomised control trial setting. In fact, while the randomisation undertaken across sub-locations ensures that the eligible households in treatment and control areas are comparable by design, the assumption of comparability does not hold when one is interested in the effect of the Programme on actual recipients.

The difficulty arises from the fact that the actual recipients (As) are a sub-set of the eligible households in treatment areas (As and Cs), whose selection was clearly non-random. The process that led to the identification of final beneficiaries in treatment areas was partly led by Programme prioritisation criteria (notably, the age of the household head), but was also possibly driven by specific characteristics of the applicants and the communities, some of which may be unobservable.⁸²

Moreover, the proportion of the actual recipients over the total eligible households is too small (22 per cent) to assume that the effect on the eligible is a good approximation of the effect on the actually treated.⁸³ This brings us back to the standard impact evaluation setting (a quasi-experimental one), where one has to rely on statistical modelling to control for

⁸⁰ We further restrict the group of interest to the As who declare themselves to be currently receiving the transfer at the time of the follow-up survey.

⁸¹ A complementary option to obtain a meaningful measure of the ATT could be to identify the effect of the Programme on the As plus the sub-sample of Cs that have joined the Programme in the more recent expansion since the baseline was collected. These results are not presented in this report.

⁸² A preliminary inspection of the data reveals that, in fact, the age cut-off rule is clearly not the only criterion driving the selection of As and Cs. As Annex A reports, one important reason for this discrepancy is the potential exclusion of eligible Cs from the original lists of OVC households that constituted the basis for prioritisation. Similarly, one can imagine that, once the list of eligible households were redacted, the final selection of As was also influenced by household motivations or social connections. Finally, it is not clear how the quota of actual beneficiaries to be enrolled in the Programme was assigned to different sub-locations, and this may be the result of a political bargaining process. The combination of all these factors led to exclusion/inclusion errors that are certainly not random.

⁸³ The proportion rises to 49 per cent when also taking into account Cs who were enrolled into the Programme in the last expansion phase.

observable and unobservable dimensions of the selection bias in order to obtain a reliable estimate of the ATT.⁸⁴

We follow a standard approach in this context, which consists in exploiting baseline pre-Programme information to calculate difference-in-differences estimates while controlling for a broad range of observable characteristics at the individual, household and community levels. Our treatment group is composed of households belonging to group A, who were receiving the transfer at the time of the follow-up survey. Our preferred control group is composed of households belonging to group B.⁸⁵

The reliability of the impact estimates provided by this approach rests on the degree of comparability of group A and group B, and on the ability to control for the selection bias. Table F.31 and Table F.32 test mean equality across the two groups for a set of control variables at baseline levels. They show that, while households belonging to groups A and B were comparable on the ground of most observable variables, they also presented some statistically significant differences. Particularly, households belonging to group A had older household heads and were more likely to contain disabled members. The education level of adult household members was also somewhat lower in group A. In terms of welfare characteristics, the two groups were reasonably comparable at baseline; if anything, households in group A were slightly poorer, and tended to rely more on external support. Community characteristics also seem to be evenly distributed across the two groups, an exception made for access to basic school, which was easier in group A.

In Table F.33, we further test the existence of baseline differences in the main outcomes of interest for the evaluation between our treatment and control groups. If the two were fully comparable, one would expect pre-Programme outcome levels also to be equally distributed across treatment. We find that this is the case for almost all variables. The only exceptions are school attendance for children aged six to 12 years enrolled in basic school, and the intensity of unpaid work for children six to 17 years, both higher in treatment households.

Overall, while we are reassured by the degree of comparability of our treatment and control groups, we identify some sources of potential selection bias – notably, the age of the household head. We use additional statistical models to try to control for this and any remaining bias due to non-observable characteristics.

⁸⁴ An alternative solution would be to exploit the fact that the proportion of the actual beneficiaries over the eligible households is known. One could calculate the effect of the Programme on the eligible households (Intent to Treat – ITT – in the medical literature), and then expand it by the proportion of actual treated to arrive at a measure of the ATT. This approach corresponds to an Instrumental Variable approach, where the randomisation is used as an instrument and assumes that there are no spill-over effects from the actual treated to non-treated eligible households in treated communities. It has been disregarded, as it relies substantially on non-treated group C for the identification, a group whose sample size is too small (and sampling weights too high) to provide results at the standard significance levels.

⁸⁵ We decide to exclude group D from the analysis, because of the small sample size of this group and high sampling weights. We also exclude from the analysis a few households in group B who declare they are currently receiving the transfer.

F.1.1 Basic specification: Parametric difference-in-differences

Our basic specification consists in a parametric version of the difference-in-differences model. Regression models take the form:

$$(1) \quad Y_i = \alpha + \beta X_i + \delta T + \lambda P_i + \gamma P_i * T + \varepsilon_i$$

where Y_i is the outcome of interest for household/individual i , X_i is a vector of observable characteristics, T is a dummy that takes value 0 at baseline and 1 at follow-up, P_i is the treatment indicator, respectively 1 for As and 0 for Bs and ε_i is the error term, on whose distribution we make the standard assumptions. After controlling for observable differences in the covariates X_i , the treatment dummy P_i captures any pre-Programme difference in the outcome of interest that is due to unobservables, while the time dummy T captures common time trends in Y across groups A and B. The difference-in-differences treatment effect is captured by the coefficient γ .

We run these models on a wide set of household- and child-level outcomes. We implement linear regression models for continuous outcomes, and assume a linear probability model for dichotomous outcomes.⁸⁶ We use a common covariate specification that we apply to a rather heterogeneous set of outcome variables. It includes a range of control variables at the individual, household and community levels that may explain selection, and potentially affect the outcomes of interest. We mainly use baseline level control variables to avoid correlation with any unexpected Programme effects. We also allow for district-level fixed effects. A full list of control variables is provided in Table F.31 and Table F.32.

Estimates take into account sampling weights and the clustered structure of the sample (see sub-section F.1.5).⁸⁷ In sub-section F.1.4, we also discuss how we deal with the issues of attrition and sample selection bias.

Anticipation effects

One element of concern is that the measurement of baseline outcomes for treated households may have been affected by anticipation effects. In case of positive anticipation bias, the outcome of the difference-in-differences approach would underestimate the real Programme effect. We try to address this issue through the regression method, by analysing

⁸⁶ Probability based distributions (e.g. probit) become quite intractable in the context of difference-in-differences models. The marginal coefficient estimated from a parametric probit on equation (1) is not the correct marginal effect of the Programme, as the underlying probability model is not linear and marginal effects are not additive. It is possible to retrieve the correct parameters by hand after the estimation, but bootstrapping is required to obtain correct standard errors. Moreover, clustering and weighting options are generally not provided by standard STATA commands in this context for panel dynamic or fixed effect estimation. There is an increasing tendency in econometrics to model binary outcomes as linear. It has been shown that linear probability models generally approximate a probit well for smooth probability distributions, although the quality of the fit tends to deteriorate when the mass of the probability is concentrated around 1 or 0. As a robustness check, we calculate by hand the corrected difference-in-differences point estimate (from a probit) for selected outcomes with probability close to 1 or 0, and compare it with the estimated linear probability model point estimate (Table F.34). Overall, the two are reasonably close, particularly when sample sizes are large enough. We are therefore confident that the linear assumption is not going to induce a strong bias into our results.

⁸⁷ Full details of the estimation outputs are available on request.

whether there is any inexplicable difference in the outcomes of interest between groups A and C at baseline. Although it is not possible to separate selection bias and anticipation effects, we can generally rule out the case for anticipation bias.

Heterogeneity of the effects

One question of extreme interest for the evaluation is whether the Programme's effects vary depending on the characteristics of the beneficiaries. Several aspects of the cash transfer design – particularly its targeting approach, and the fact that the value of the transfer is fixed at the household level – suggest that the impact can be heterogeneous across beneficiaries. We are particularly interested in testing whether the effects vary depending on the household size and the poverty status of beneficiaries.

In order to do so, we run a set of difference-in-differences models where we interact treatment status with selected household pre-Programme characteristics. Equation (1) takes the form:

$$(2) \quad Y_i = \alpha + \beta X_i + \delta T + \lambda P_i + \gamma P_i * T + \chi D_i * T + \phi D_i * P_i + \phi D_i * P_i * T + \varepsilon_i$$

where D_i is a dichotomous variable that is 1 for households whose household size at baseline was equal to or above the median (six members), or whose per adult equivalent consumption (at baseline) was equal or above the median. The parameter γ captures the effect of the Programme when D_i is 0 (for households relatively smaller or poorer), whereas ϕ provides the differential effect when D_i equals 1 (for households relatively larger and richer). For simplicity of interpretation, we also calculate from a joint regression separate impact estimates for the two groups.

The results we obtain from models with interacted terms must be interpreted with extra caution. The disaggregation of the effects by household size and poverty status is interesting in descriptive terms, but may be driven by sample selection bias. In fact, household size and poverty status may be correlated with other underlying observable and unobservable traits; hence, any conclusion about the causality of these household characteristics on the Programme's effects should be avoided.

F.1.2 Enhanced approach: Imposing the common support

The difference-in-differences approach enables us to control for observable and unobservable pre-Programme characteristics of households belonging to groups A and B, but relies on the assumption that there are no time-varying unobservable factors affecting treatment and control households in a differential way between baseline and follow-up.⁸⁸ Given the structure of the data, we are not in a position to test this assumption retrospectively. However, we argue that this crucial hypothesis is less likely to hold if results are extrapolated outside the region of common support (i.e. when groups A and B are not comparable on the ground of observable characteristics). In order to strengthen the reliability of our identifying approach, we complement the main results with estimates of the effect of the Programme for a sub-set of 'comparable' households in groups A and B.

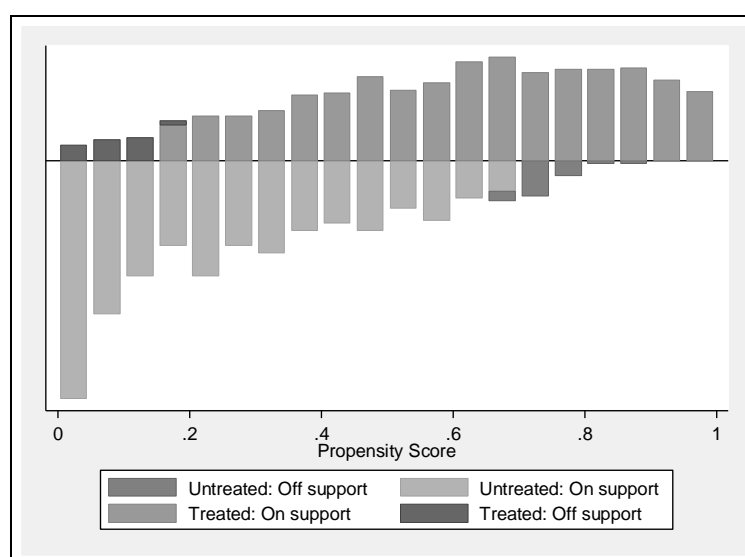
Based on a parametric selection model, we assign to each household a measure of its probability of being treated (group A versus group B) – usually called a propensity score, in

⁸⁸ Generally referred to in the impact evaluation literature as the 'common trend' assumption.

the literature. The function of participation, which is run at the household level, contains the full set of baseline household and community characteristics reported in Table F.31. Details of the model estimated are reported in Table F.35; overall, the quality of the fit is reasonably good, with a pseudo R-squared of 0.29.

After trimming the distribution of the propensity score to exclude its tails, we identify a subset of households in groups A and B with a similar propensity score.⁸⁹ Figure F.1 and Figure F.2 show graphically the two steps of the procedure, highlighting the proportion of households that fall outside the common support.

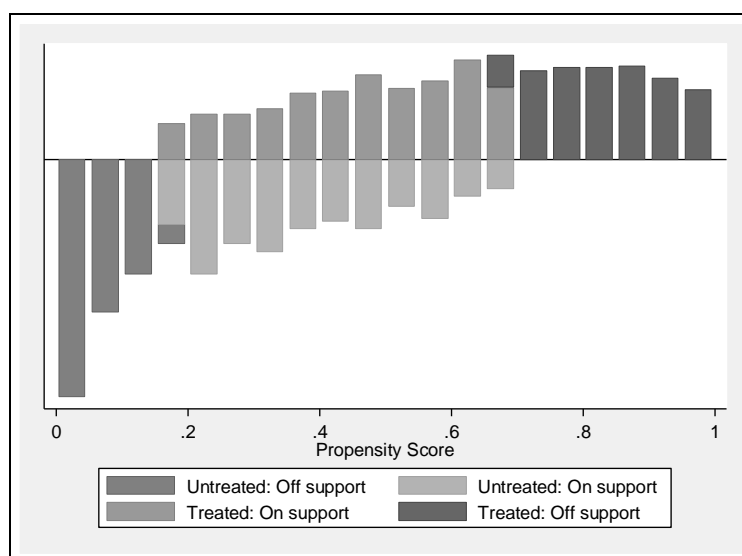
Figure F.1 Trimming the propensity score density



Sources: OPM CT-OVC evaluation baseline (2007) data.

Notes: (1) Panelled households only. OVC households at baseline.

⁸⁹ We trim 0.5 per cent of the estimated kernel density of the propensity score before imposing common support.

Figure F.2 Imposing common support

Sources: OPM CT-OVC evaluation baseline (2007) data.

Notes: (1) Panelled households only. OVC households at baseline.

Overall, the procedure leads to restricting the analysis to 57 per cent of the original sample of households. This may seem a quite sharp reduction, suggesting that the two groups were not so comparable in the first instance. It must be noted, however, that the fall in observations is mostly driven by the trimming step, which is implemented in order to ensure complete balance of the two samples in terms of the covariates. In fact, the procedure contributes to a massive reduction of the covariates unbalance between groups A and B (see Table F.31 and Table F.32). All baseline differences are no longer statistically significant, and the overall size of the absolute bias decreases substantially.⁹⁰

Once we have identified the sub-set of 'comparable' households in groups A and B, we run standard parametric difference-in-differences models. In practice, we apply the core estimation approach described above in (1), but restrict the sample to households that lie on the common support.⁹¹

F.1.3 Cohort models for child-level outcomes

The main estimation approach and the extensions that have been described up to this point are based essentially on cross-sectional difference-in-differences models.⁹² In the case of

⁹⁰ However, it must be noted that there is a trade-off between group comparability and sample sizes. While the trimming produces a substantial reduction of the observable selection bias, the sharp reduction in sample sizes may also make some findings not significant, simply due to the smaller number of observations.

⁹¹ Instead, we could have opted for a non-parametric matching strategy (as in the case of the propensity score matching). We disregarded this option for two main reasons: it can be computationally very demanding, due to the need to bootstrap standard error estimates for such a large number of outcomes; and it can be implemented in differences for panelled individuals, but not in a cross-sectional environment – this reduces sample sizes drastically when attrition is an issue.

⁹² As such, these models could be potentially run even if the data from the two rounds comes from different observations.

child-level outcomes, it is possible to further exploit the panelled structure of the data and estimate cohort models that explicitly rely on the availability of repeated observations for the same child over time. While *cross-sectional models* provide an estimate of the effect of the Programme on children belonging to a determined age group (comparing same age groups, but different children over time), *cohort models* would estimate the effect of the Programme on a determined group of children as they grow older (comparing the same children, but different age groups over time).

The two approaches differ essentially in the way they treat children that join and leave the sample between baseline and follow-up. Cohort models are more restrictive in terms of data requirements, as they drop any individual whose outcomes (and covariates) are not observed both at baseline and follow-up (including individual attritors and new joiners). On the other hand, they may provide gains in terms of accuracy and efficiency, as they make more intensive use of the structure of the data explicitly modelling repeated observations.

We believe that cross-sectional models are generally more robust in the context of this evaluation, as they permit the extrapolation of results over a wider age range and they rely on larger sample sizes. Still, as a robustness check, for selected child-level outcomes we also run two alternative sets of cohort models: a fixed effects model and a lagged dependent model.

The individual *fixed effects model* assumes that the underlying structure of the outcome takes the form:

$$(3) \quad Y_{it} = \alpha_i + \beta X_{it} + \delta T + \lambda P_{it} + \varepsilon_{it}$$

where α_i is some source of individual specific heterogeneity that is constant with time but may be correlated with the Programme status (i.e. a fixed effect). One can think of it as a term for the unobservable selection bias. A simple OLS estimation of (3) would yield a biased estimate of the true Programme effect.⁹³ Instead, the latter can be consistently estimated by taking first differences of (3) and averaging out the individual heterogeneity term.⁹⁴ To further allow that covariates affect the outcome in a differential way at different points in time, we implement the following modified version of the fixed effects estimator:

$$(4) \quad \Delta Y_i = \delta + \beta \Delta X_i + \lambda \Delta P_i + \eta_i$$

where Δ is the conventional notation for first differences (e.g. $\Delta Y_i = Y_{it} - Y_{it-1}$), X_i is a vector of constant covariates and the effect of the Programme is now captured by λ .

The *lagged dependent variable model* assumes a different underlying structure for the outcome:

$$(5) \quad Y_{it} = \alpha Y_{it-1} + \beta X_{it} + \delta T + \lambda P_{it} + \varepsilon_{it}$$

⁹³ In fact, the unobserved heterogeneity would go in the error term, which would no longer be uncorrelated from the Programme status, violating one of the assumptions required for OLS to estimate the impact parameter correctly.

⁹⁴ This is substantially the cohort equivalent of our main cross-sectional difference-in-differences approach, where the fixed effect is aggregated at the group level and captured by the group dummy.

Note that, in this case, we introduce an element of flexibility, as the level of the outcome at follow-up depends on its baseline value plus covariates and the Programme. This dynamic element should contribute to explaining much of the total variance, and may also increase the precision of our impact estimates. As a drawback, the model assumes that all individual unobserved heterogeneity is captured by Y_{it-1} (but no fixed effect at the individual level).⁹⁵

In principle, there is no clear answer as to which of the two cohort approaches is better, as they rest on different assumptions. The fixed effects model is more robust, but the lagged dependent variable can be more efficient if the specification is correct. It is generally reassuring to see that both models seem to point to the same conclusions, which are also mostly consistent with those of the cross-sectional models (see sub-section F.2).⁹⁶

F.1.4 Attrition and sample selection bias

Attrition is a serious issue for consideration in any panelled survey. In the context of an impact evaluation, its importance further relates to the fact that potential sample selection bias may affect treatment and control groups differently, therefore potentially invalidating difference-in-differences estimates.⁹⁷

We distinguish two main sources of potential sample selection bias – household-level attrition and child mobility – which we analyse in turn.

Household level attrition

Table F.1 describes the pattern of household attrition between baseline and follow-up for our treatment and control groups. The overall attrition rate is quite high (17.4 per cent) and, more worryingly, attrition affected groups A and B differently. While 24 per cent of households dropped from the sample in group B, 14 per cent were not re-interviewed at follow-up in group A. A further breakdown of attrition by district reveals that most problems are concentrated for group B in Nairobi, where it has been possible to track only 52.4 per cent of the original households from the baseline survey. In Garissa, Kisumu and Homabay, attrition rates for households in group B are also higher than 20 per cent.

⁹⁵ Note that a fixed effect approach cannot be combined with the lagged dependent variable model without incurring endogeneity problems. These could only be solved using an instrumental variable approach when more than two data periods are available (Arellano and Bond, 1991).

⁹⁶ For both cohort models, we could have also imposed the common support, (following the procedure described in Section F.1.2) to increase the comparability of groups. However, sample sizes are generally too small when we do so, and we omit presentation of these results. In terms of sample sizes, it also is worth noting that both cohort models use only one observation per children, whereas cross-sectional models pool baseline and follow-up observations.

⁹⁷ It basically consists in an invalidation of the common trend assumption.

Table F.1 Household attrition

| | Total | As | Bs |
|--|-------|-------|-------|
| Number of households at baseline | 2156 | 1455 | 701 |
| Number of households re-interviewed at follow-up | 1780 | 1247 | 533 |
| Attrition | 17.4% | 14.3% | 24.0% |
| Attrition by district (%) | | | |
| Garissa | 16.8 | 11.6 | 31.6 |
| Homabay | 16.5 | 14.0 | 21.1 |
| Kisumu | 19.0 | 15.0 | 25.3 |
| Kwale | 14.2 | 13.2 | 16.1 |
| Migori | 17.1 | 16.3 | 18.7 |
| Nairobi | 24.8 | 16.9 | 47.6 |
| Suba | 14.3 | 10.9 | 20.8 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Note: Unweighted proportions.

In order to assess the scope and nature of potential sample selection bias due to household attrition in Table F.36, we compare main baseline characteristics between attrited and non-attrited households. We find that several socio-economic indicators are distributed in a statistically different way across the two groups. In particular, attrited households contain a smaller number of orphans, are more likely to be headed by a younger person, and less likely to include a chronically ill caregiver – all characteristics that may suggest they are more mobile. Also, attrited households are mostly urban: they are less likely to own any land or livestock, and more likely to own a telephone, or are relying on paid employment as their main activity. This is consistent with the high attrition in Nairobi mentioned earlier.

Next, we analyse whether different attrition rates may cause a sample selection bias between our treatment and control groups. In Table F.36, we compare main baseline characteristics of attrited households in groups A and B: partly because of smaller sample sizes, we find only a few significant differences. Nonetheless, some of them are still noteworthy: treatment attrited households are about 11 percentage points more likely to be female-headed than controls; in line with the general trend, household heads in group A are also significantly older than those in group B. Finally, we find some (weak) evidence that attrited households in group A are worse off than their counterparts in group B from a socio-economic stand point: they are generally more rural, less likely to own a telephone, and more likely to live in a house with a poor quality floor.

All these elements suggest that household attrition bias, if not duly accounted for, may affect the reliability of our impact estimates. We adopt a conservative approach in this respect, as we restrict the whole impact analysis to households that were contacted and interviewed in both the baseline and the follow-up surveys.⁹⁸ While this strategy is quite severe in terms of sample size losses, it protects our estimates from internal validity concerns. The drawback is on the ground of external validity, as our results cannot be generalised to the whole population at baseline but only to households that were tracked along the survey. As we lose

⁹⁸ Furthermore, we exclude non-OVC households at baseline from the analysis.

the most mobile households from the sample, we suspect that the overall real effect could lie somewhere below that estimated.⁹⁹

An alternative to keeping larger sample sizes (at baseline) and gain on external validity would be to model attrition on the basis of observable household characteristics, and use an inverse probability weighting (IWP) procedure to correct for the attrition bias. We disregarded this approach on the ground of two arguments:

- Attrition rates are dramatic in the control group but acceptable in the treatment group. In this sense, the concern with the external validity of impact estimates is less of an issue so long as we are able to find adequate control observations to match treated households (see sub-section F.1.2).
- In terms of sample sizes, even when gaining baseline observations, the precise estimation of the effect through difference-in-differences models depends crucially on the number of observations available at follow-up, something we are not in a position to correct anyway.

Child mobility

The evaluation study focuses largely on child-level outcomes. As a consequence, even when restricting the impact analysis to panelled households, we need to give separate treatment to the issue of individual (child) mobility between the baseline and follow-up surveys. Table F.2 shows that 13.2 per cent of children aged 0 to 17 years at baseline left the sample between the two rounds of data collection; 19.2 per cent of the them joined panelled households in the same time frame. In the first instance, it is reassuring to see that the proportion of children leaving and joining the sample in panelled households is similar across the two groups.

Table F.2 Children leaving and joining the sample

| | Total | As | Bs |
|--|--------------|-----------|-----------|
| Number of children aged 0–17 years at baseline | 6169 | 4249 | 1920 |
| Number of children who had left the household at follow-up (movers): | 814 | 588 | 226 |
| as a proportion of children at baseline | 13.2% | 13.8% | 11.8% |
| Number of children who joined the household at follow-up (joiners): | 1182 | 791 | 391 |
| as a proportion of children at baseline | 19.2% | 18.6% | 20.4% |
| Movers for whom we have reasons of attrition: | 743 | 527 | 216 |
| as a proportion of movers | 91.3% | 89.6% | 95.6% |
| Joiners for whom we have reasons of attrition: | 1182 | 791 | 391 |
| as a proportion of joiners | 100% | 100% | 100% |

Sources: OPM CT-OVC evaluation baseline (2007) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) Unweighted proportions

Table F.37 and Table F.38 further explore the characteristic of children leaving and joining panel households between the baseline and follow-up surveys. Movers are more likely to be

⁹⁹ This is assuming more mobile households are relatively better-off and relatively less likely to benefit from the Programme.

females and less likely to be chronically ill compared with children who stayed in the household. Joiners are evidently mostly newborn children and, hence, less likely to be orphans. This suggests that the treatment we give to individual mobility is going to matter most for health and nutrition outcomes, which refer to the youngest cohort of children in the sample.

The discussion about how to deal with child mobility boils down to a choice between cross-sectional and cohort models (see sub-section F.1.3). Cross-sectional models follow a given age group over time, and accept as valid all observations that fall in the age group at baseline and follow-up surveys, including joiners and movers. Cohort models follow only one group of children over time, and disregard information about joiners and movers. While the cohort approach is more conservative in terms of controlling for any sample selection bias, cross-sectional models are more generous with sample size and permit extrapolations onto the whole age range of the indicators. But their reliability rests ultimately on the analysis of individual attrition bias and its varying effect on groups A and B.

We are mostly concerned with the fact that the characteristics of children leaving/joining our sample between the baseline and follow-up surveys may differ substantially between groups A and B. We find no evidence of this, for either joiners or movers (see Table F.37 and Table F.38).

We also collected explicit information on the reasons for the child leaving/joining the sample. Table F.3 and Table F.4 provide evidence that these are evenly distributed between treatment and control children in most dimensions. However, mobility seems to affect the two groups in a disproportionate way in two areas of particular interest. New individuals are more likely to join treatment households as fostered children whereas, in control households, newborns are more common. Table F.3 also shows that children living in control areas at the time of the baseline survey are more likely to leave their household for schooling reasons. The conclusion is that individual sample selection bias, although potentially small, cannot be fully disregarded, at least for education outcomes.

Table F.3 Reasons for leaving the household, children aged 0–17 years

| | Total | As | Bs | Difference |
|---|-------|-------|-------|------------|
| Moved for work | 0.052 | 0.043 | 0.065 | -0.021 |
| Moved for schooling | 0.08 | 0.051 | 0.123 | -0.072** |
| Moved to live with relatives | 0.384 | 0.399 | 0.361 | 0.038 |
| Death of caregiver | 0.061 | 0.078 | 0.034 | 0.044 |
| Death of individual | 0.17 | 0.196 | 0.131 | 0.064* |
| Marriage | 0.067 | 0.06 | 0.079 | -0.019 |
| Break-up of household | 0.007 | 0.005 | 0.01 | -0.005 |
| To recover from illness | 0.012 | 0.011 | 0.013 | -0.002 |
| To follow other family members | 0.084 | 0.078 | 0.093 | -0.015 |
| To set up a new household | 0.019 | 0.013 | 0.028 | -0.015 |
| Moved because of post-election violence | 0.01 | 0.015 | 0.002 | 0.013 |
| Other | 0.034 | 0.039 | 0.026 | 0.012 |
| Person was never part of the household | 0.022 | 0.013 | 0.035 | -0.022 |

Sources: OPM CT-OVC evaluation baseline (2007) data.

Notes: (1) *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$. (2) Estimates are weighted and standard errors are clustered at the sub-location level. (3) Panelled households only. OVC households at baseline.

Table F.4 Reasons for joining the household, children aged 0–17 years

| | | As | Bs | Difference |
|-------------------------------------|-------|-------|-------|------------|
| Moved for work | 0.003 | 0.011 | 0 | 0.011*** |
| Moved for schooling | 0.04 | 0.031 | 0.044 | -0.014 |
| Moved to live with relatives | 0.142 | 0.118 | 0.154 | -0.036 |
| Death of caregiver | 0.116 | 0.15 | 0.099 | 0.051 |
| Marriage | 0.036 | 0.04 | 0.035 | 0.005 |
| Break-up of household | 0.033 | 0.056 | 0.022 | 0.034 |
| To recover from illness | 0.004 | 0.007 | 0.003 | 0.004 |
| To follow other family members | 0.046 | 0.049 | 0.045 | 0.004 |
| Newborn | 0.228 | 0.173 | 0.255 | -0.082** |
| Came home from living elsewhere | 0.063 | 0.089 | 0.05 | 0.039* |
| Not reported in the baseline survey | 0.279 | 0.273 | 0.283 | -0.01 |
| Other | 0.009 | 0.005 | 0.011 | -0.005 |

Sources: OPM OVC-CT evaluation baseline (2007) data.

Notes: (1) *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$. (2) Estimates are weighted and standard errors are clustered at the sub-location level. (3) Panelled households only. OVC households at baseline.

In this respect, cohort models constitute a useful check for robustness against cross-sectional models. However, it is worth noting that, for several indicators, the number of usable observations is substantially lower for the cohort approach than for cross-sectional models. This is due to three reasons. First, the sample of panelled households is affected by genuine individual mobility. Second, as individuals grow older between the baseline and follow-up surveys, they also move in and out of the relevant age brackets for different indicators.¹⁰⁰ Third, even when the first two reasons do not apply, there may be missing values in the outcomes or covariates, either at baseline or follow-up.¹⁰¹

A solution to ensure larger sample size and resolve the issue of sample selection is to run cross-sectional models, but restrict them to the sub-set of children that stay in the sample.¹⁰² Compared with cohort models, this approach avoids data losses from the second two sources, but not the first. In Table F.39, we undertake a comparison of traditional and restricted cross-sectional models for a selected set of outcomes.¹⁰³ The findings are generally highly consistent, and suggest that sample selection bias is not affecting our main results in any substantial way.

¹⁰⁰ This was only partly mitigated by the fact that, for some questions, the age range was extended by two years at follow-up in order to allow cohort analysis to draw on a larger set of individuals. This implies that, in some cases (e.g. secondary school enrolment, child labour), cohort models rely on follow-up information for individuals older than 17 years (i.e. outside the cross-sectional age range).

¹⁰¹ The last two causes are partly aggravated by the age cleaning process. In order to take this into account, we control for the fact that original age data has been revised by including amongst the set of covariates a dummy for age cleaning and also the difference between original age and 'cleaned' age.

¹⁰² This is equivalent to how attrition was handled at the household level.

¹⁰³ We concentrate on outcomes that show significant Programme effects under the main cross-section approach.

F.1.5 Sampling weights and standard errors

There is a great deal of discussion in the evaluation literature as to whether to use sampling weight and standard errors adjusted for cluster sample designs when estimating treatment effects. Both aspects are directly related to the sampling approach used for data collection (see Annex A for further details).

Standard errors

The need to correct standard errors for clustering is a consequence of using a multistage sampling design for data collection. Observations are not independent across the sample, but may be correlated within the same (primary) sampling units. Failing to take this into account – which consists in assuming that each observation was selected randomly from the whole universe – is likely to produce underestimates of the variance of the parameters of interest and, hence, erroneously to identify significant Programme effects.

One standard procedure to deal with the issue of clustering is to correct standard errors using a modified sandwich estimator of the variance–covariance matrix that allows the observations to be independent across groups (clusters) but not necessarily within groups.¹⁰⁴

In our case, this solution is complicated by two additional elements. First, while the allocation to treatment and sampling of the treatment group took place in two stages (sub-location and household), control households were selected in three stages (sub-location, enumeration area and household).¹⁰⁵ We address this issue by analysing the level of intra-cluster correlation at each stage using a multilevel model with group random effects at every sampling stage. Our results suggest that a relevant fraction of the total variance is explained by the sub-location level, whereas the intra-cluster correlation within enumeration areas is normally negligible. We therefore ignore the second sampling stage in the calculation of cluster corrected standard errors for group B. All the standard errors presented in the report are calculated with clustering at the sub-location level, which also corresponds to the level at which the Programme was randomly allocated.

The second area of concern is that cluster correction of standard errors is believed to work efficiently when the data has been collected across at least 50 clusters (Donald and Lang, 2007). This is not the case for this study which, overall, was run in 28 sub-locations. An alternative approach, which could prove to be more efficient in this context, is to use multilevel models and allow for a group-level random effect at the sub-location level. We implement this strategy for a selected number of outcomes (Table F.40), and obtain comparable estimates.¹⁰⁶ If anything, group random effect models report smaller standard

¹⁰⁴ This approach is mostly common in economics (cluster option in STATA). It consists in adjusting standard errors ex-post, and is flexible to any structure of the correlation in the data. The standard approach to deal with clustered standard errors is different in epidemiology, where it is rooted on the use of multilevel models. This is an ex-ante approach that relies on further assumptions on the structure of the correlation in the data before estimating the models. Generally, multilevel models assume the existence of a cluster-level random effect that is normally distributed and has the same variance–covariance structure in the treatment and the control groups. The trade-off between the two approaches is as follows: the ex-post approach is always consistent, but is less efficient; the ex-ante approach is inconsistent if the assumptions on the structure of the correlation are wrong, but is more efficient if they are right. For robustness, we follow the ex-ante approach.

¹⁰⁵ See Annex A, for further information on the sampling approach.

¹⁰⁶ We compare ex-post cluster-corrected standard errors of our main cross-sectional difference-in-differences model with group random effect difference-in-differences models. Contrary to the general case, we disregard sampling weights for this comparison. In fact, multilevel models cannot be easily

errors than standard clustering and, hence, higher significance levels for a few impact estimates. We argue that these findings support our case for implementing the standard clustering approach, as it is more conservative.

Sampling weights

The issue of using sampling weights for the identification of treatment effects is also controversial in the literature on impact evaluation. While it is clear that, given the stratified structure of our sample, one should use sampling weights to calculate and compare means across groups, the approach to follow in the case of causal identification through multivariate methods is not clear-cut.

In principle, if one believes that the model is correctly specified, is prepared to make some assumptions on the structure of the residuals,¹⁰⁷ and to assume that the parameter of interest (the Programme's effect) is homogenous across population groups, then the unweighted OLS of equation (1) should provide an unbiased estimate for the population parameter.

The key issue is that of heterogeneity of the regression coefficients, as we believe that the effect of the Programme can vary substantially across districts (our strata). We are most interested in identifying the population parameter (the impact of the Programme over the universe of beneficiaries), rather than its sample counterpart (the effect over the sub-set of sampled observations). In fact, we consider that the former is more relevant to policy discussions about the Programme's effectiveness. In such a scenario, using weights is always consistent and more robust to model misspecification, although this could, in some cases, be less efficient (DuMouchel and Duncan, 1983). For these reasons, we take into account sampling weights (calculated at the household level) when producing our preferred estimates.

As a robustness check, we also implement unweighted estimates for a sub-set of selected outcomes (see Table F.41). Large differences between the weighted and unweighted parameter estimates would suggest important heterogeneity by strata. Results are generally very consistent across the two approaches.¹⁰⁸

The weights are not adjusted for household attrition – although the sum of the weights by stratum will be adjusted by the fact that there are fewer households with each given weight at follow-up. There is no additional information about the size of the relevant population with which to adjust the weights, and the post-attrition sample cannot be assumed necessarily to represent the whole of the pre-attrition population. This is consistent with our general approach regarding attrition: we refrain from claiming that our results are representative for the whole population of reference at baseline; rather, we argue that they can be generalised to the sub-set of households that we were able to track along the survey.

combined with weights. Note that group random effects models provide not only a different estimate of the standard error, but may also give a different point estimate of the effect. This is due to the fact that they correct ex-ante for the clustered structure of the data.

¹⁰⁷ Notably, assume conditional independence of the error term from the covariates.

¹⁰⁸ Magnitudes are generally slightly greater when weighted, which suggests that the effects may be higher in districts with higher weights (Homabay, Kwale) when compared with districts with lower weights (Garissa, Kisumu).

F.1.6 Evaluating the effect of conditions

One objective of the evaluation was to assess whether the imposition of conditions with penalties on Programme beneficiaries greater impact than the payment of the cash transfer alone. For this purpose, the imposition of conditions with penalties was non-randomly assigned to three districts and one Nairobi sub-location during the design phase, while in the other areas households were told that there were expectations on their behaviour, but compliance was not monitored and no penalties were deducted from payments.

A direct approach to the evaluation of conditions with penalties would be to compare the outcomes of Programme beneficiaries across locations with and without them.

This obvious strategy is complicated by several factors:

- The assignment of conditions with penalties was not exogenously determined, and may therefore be associated with observable and non-observable differences;
- As mentioned in the main report, implementation of conditions with penalties has been fragmented and inconsistent across locations. Most beneficiaries in locations where conditions were imposed were still unaware of monitoring and sanctions for non-compliance at the time of the follow-up survey; and
- Due to the small number of clusters across which the assignment of conditions with penalties was undertaken, intra-cluster correlation is expected to be high, thus reducing the power of the sample to detect any statistically significant effect.

In Table F.42 and Table F.43, we assess the comparability of beneficiary households' characteristics across locations with and without conditions with penalties, as we test mean equality for a set of baseline-level individual, household and community characteristics.¹⁰⁹ Possibly because of the small number of clusters, mean differences appear to be generally insignificant, although quite substantial in magnitude for some covariates. Further inspection reveals that the two groups differ also in terms of some key baseline-level outcomes, including vaccination rates (Table F.45).

In an attempt to control for these differences, we again adopt a parametric difference-in-differences approach. The regressions take the usual form, except that now the treatment indicator P_i in equation (1) is 1 for beneficiaries in locations where conditions with penalties are imposed and 0 otherwise. After taking into account pre-Programme unobservable differences, time-varying observable differences and a common time trend across locations, the model provides an estimate of the different treatment effect of living in a location where conditions with penalties are enforced compared with one where they are not.¹¹⁰

We run this model on a set of outcomes that might be expected to reflect the effect of conditions with penalties – particularly school and health facility attendance, and household

¹⁰⁹ Our definition of beneficiaries is As who declare themselves to be receiving the transfer at the time of the follow-up survey.

¹¹⁰ In order to avoid extrapolation outside the common support and assuage worries on the lack of comparability across locations with and without conditions, we further enhance the model by following the same parametric approach described in Section F.1.2. The propensity score is constructed on the basis of a selection model that relates pre-Programme observable household-level covariates with the fact of living in a district where conditions are or are not enforced. The quality of the fit is not fully satisfactory, and the procedure only marginally contributes to reducing the observable selection bias. Therefore, we omit these results from the present report.

expenditure patterns – using the same specifications of the basic approach for main treatment effects. We report results for some the most relevant outcomes in Table F.46 to Table F.48.

Disentangling conditionality mechanisms

Given the limited implementation of conditions with penalties by the time of the follow-up survey, it is not surprising to find small and generally insignificant effects of living in a location ‘with conditions’. In fact, the data do not *de facto* provide sufficient genuine variation to draw any conclusion on the effectiveness of conditions with penalties. However, in order to further investigate the mechanisms that may make properly implemented conditions work effectively, one could try to exploit other sources of variation that exist in the data amongst Programme beneficiaries (irrespective of location) in terms of whether they believe that (specific) rules exist concerning how transfers should be spent, and whether they believe that they would be subject to penalties for non-compliance with (any) rules.

Understanding the effect of perceptions about rules and rule enforcement on potential outcomes could guide future discussions on whether and how to attach conditions with penalties to the cash transfer. In undertaking these comparisons, we are particularly concerned with the fact that beneficiaries’ awareness about Programme features is likely to be correlated with their observable and unobservable characteristics, which may, in turn, also affect the outcomes of interest.

These worries are confirmed by the analysis of main household characteristics when we break down the sample by the beneficiaries’ degree of understanding of Programme design features (Table F.44). Households that believe rules and penalties are in place generally have a better socio-economic background and higher education, suggesting that they may be in a better position to grasp information from the Programme officials or other informal channels. As the comparison of baseline outcomes shows, they were also better-off at baseline in terms of main indicators of interest, such as basic school enrolment, and vaccination (Table F.45). In such a scenario, a simple estimation of the effect of awareness on potential outcomes may be extremely misleading.

One option for solving this evident endogeneity problem is to exploit the time structure of the dataset and estimate difference-in-differences estimators for the two ‘treatments’ we have become interested in: awareness of rules and awareness of penalties. However, the nature of the selection bias is such that the core identifying assumption of difference-in-differences models (common trends in unobservables) is also very likely to fail.¹¹¹ Hence, results reported in Table F.46 to Table F.48 should be considered as only indicative and should be interpreted with extreme caution.

F.2 Model results

In this sub-section, we present and discuss the main results obtained from alternative modelling approaches for the key outcomes of the Programme. While in the main text we report only the estimates from the basic approach (cross-sectional difference-in-differences) and the full sample, here we compare alternative specifications, and we explore the issue of heterogeneous effects by household size and poverty status. Additionally, when possible, we break down the analysis of child indicators by sex and age range.

¹¹¹ We should also try to minimise bias arising from extrapolation outside the common support. Attempts at doing so following the same parametric approach described in Section F.1.2 have not been successful. We leave this to further analysis.

F.2.1 Household welfare and consumption

We first focus the analysis of the Programme's impacts on household consumption and monetary poverty. We expect the consumption pattern of beneficiary households to change as a direct consequence of receiving the transfer. We analyse the effect of the transfer on total consumption expenditure and a range of consumption categories, both at aggregate household level and on a per adult equivalent/per capita basis (Table F.5).

While we find positive and quite substantial effects on total monthly consumption expenditure and all expenditure items, none of the coefficients is strongly significant in statistical terms. Conversely, we estimate statistically significant effects when considering per adult equivalent total expenditure and per capita consumption items.

Our estimates of the effects of the Programme on per adult equivalent total monthly expenditure suggest that, on average, households devote almost the full amount of the transfer to consumption (cf. Table 3.5). We also find evidence of increases in food and non-food per adult equivalent expenditure, as well as health per capita consumption. Contrary to expectations, the models do not suggest that the transfer has a significant effect on education-related expenditure, although coefficients are generally positive. The coefficients hold throughout the alternative model specification when we restrict the analysis to a sub-set of fully comparable treatment and control households.

Overall, this positive effect on consumption also translates into a reduction in the incidence of poverty, which we measure as the proportion of households spending less than \$1/\$2 per day per adult equivalent. We find that the Programme contributes to reducing poverty amongst beneficiary households by about 10 percentage points and, to extreme poverty, by about 13 percentage points.

Table F.5 Impact on consumption and poverty

| Indicator | Cross section Difference-in-differences | |
|--|--|----------------------------|
| | A vs B | A vs B (comparable set) |
| | | |
| Mean total monthly household consumption expenditure (Ksh – real) | 454.8 (0.412) | 526.2 (0.418) |
| | 3548 | 1924 |
| Mean monthly food consumption expenditure (Ksh - real) | 160.5 (0.632) | 298.4 (0.453) |
| | 3542 | 1920 |
| Mean monthly health expenditure (excluding AIDS drugs) (Ksh – real) | 60.86* (0.0567) | 40.45 (0.218) |
| | 3548 | 1924 |
| Mean monthly education expenditure (Ksh – real) | 69.66 (0.319) | 106.8 (0.289) |
| | 3548 | 1924 |
| Mean monthly non-food expenditure (Ksh – real) | 167.4 (0.411) | 108.6 (0.667) |
| | 3542 | 1922 |
| Mean total monthly household consumption expenditure per adult equivalent (Ksh – real) | 274.4** (0.0472) | 298.6* (0.0604) |
| | 3548 | 1924 |
| Mean monthly food consumption expenditure per adult equivalent (Ksh – real) | 153.0* (0.0745) | 191.1* (0.0591) |
| | 3542 | 1920 |
| Mean monthly health expenditure per capita | 17.16** | 16.91** |

| | | |
|---|----------|-----------|
| (excluding AIDS drugs) (Ksh – real) | (0.0106) | (0.0375) |
| | 3548 | 1924 |
| Mean monthly education expenditure per child (Ksh – real) | 26.71 | 31.49 |
| | (0.214) | (0.300) |
| | 3522 | 1907 |
| Mean monthly non-food expenditure per adult equivalent (Ksh – real) | 93.34* | 52.74 |
| | (0.0699) | (0.375) |
| | 3542 | 1922 |
| Poverty: mean total monthly household consumption expenditure per adult equivalent below \$1 per day (real) | -0.132** | -0.145*** |
| | (0.0323) | (0.00649) |
| | 3548 | 1924 |
| Poverty: mean total monthly household consumption expenditure per adult equivalent below \$2 per day (real) | -0.103* | -0.0754 |
| | (0.0515) | (0.181) |
| | 3548 | 1924 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1 p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values. (5) Real consumption expenditure per adult equivalent has been estimated by adjusting nominal expenditure for price differences across districts using a Paasche price index constructed using survey data from the household and community surveys. Follow-up (2009) values have been deflated using an estimate of evaluation location specific intra-survey inflation (1.467), calculated by comparing prices and budget shares between baseline and follow-up surveys. (6) In order to enable valid inter-district comparison, rent has been excluded from the calculation of mean monthly real consumption expenditure.

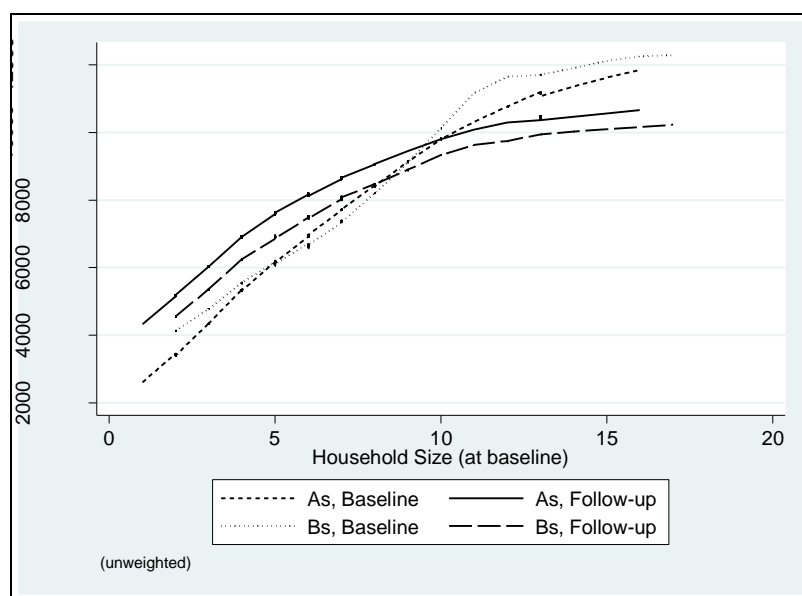
We argue that the apparent contradiction between household level and per adult equivalent consumption results may be the consequence of two facts:

- if effects on consumption are inversely correlated with household size, the negligible or null impact on households with larger expenditure would obscure any effect on households with smaller expenditure in aggregate terms, but not in a per adult equivalent/per capita basis; and
- measurement errors of consumption may increase with the value of total expenditure, i.e. for larger households.

Figure F.3 shows that the Programme did have differing effects on the consumption of households according to whether the household size was above or below the median at the time of the baseline survey. While we find positive and significant impacts on consumption for smaller households (at both per adult equivalent/per capita *and* household level), the Programme appears to be substantially ineffective when there are more than six members in the household. As Figure F.3 and Figure F.4 show, the expenditure levels appear to have deteriorated substantially (in real terms) for larger households. This is a puzzle; it is possible that the transfer value, fixed at the household level, has neither been sufficient to counteract this trend nor to preserve real food consumption during the food price crisis.¹¹²

¹¹² Notice that the Figure F.3 is based on unweighted estimates. Unweighted models indicate positive but still largely insignificant effects on aggregate consumption for large households. The effect on food consumption is negative and insignificant for both weighted and unweighted models. Finding negative, although non-significant, effects on consumption for large households is puzzling, but possibly due to the fact that consumption estimates are more likely to be affected by measurement errors.

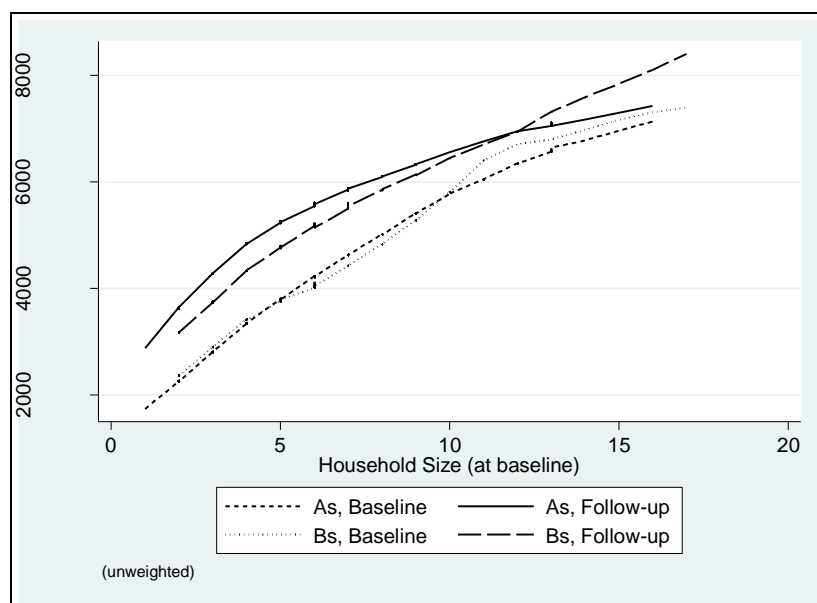
Figure F.3 Total household consumption and household size



Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Un-weighted lowest fit.

Figure F.4 Food consumption and household size



Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Un-weighted lowest fit.

As a consequence, positive poverty reduction effects are also largely concentrated in smaller households, where we find substantial changes in the probability of being extreme poor (a fall of 17 percentage points).

Table F.6 Heterogeneous impact on consumption and poverty

| Indicator | Cross section Difference-in-differences Interaction HH size | |
|--|---|-------------------------------|
| | A vs B | |
| Mean total monthly household consumption expenditure (Ksh – real) | HH size ≤6 | 979.0* (0.0738) |
| | HH size >6 | -723.3 (0.440) |
| Mean monthly food consumption expenditure (Ksh – real) | HH size ≤6 | 3548 528.8* (0.0977) |
| | HH size >6 | -653.7 (0.321) |
| Mean monthly health expenditure (excluding AIDS drugs) (Ksh – real) | HH size ≤6 | 3542 75.44** (0.0373) |
| | HH size >6 | 26.83 (0.678) |
| Mean monthly education expenditure (Ksh – real) | HH size ≤6 | 3548 85.75 (0.279) |
| | HH size >6 | 32.58 (0.715) |
| Mean monthly non-food expenditure (Ksh – real) | HH size ≤6 | 3548 245.3 (0.135) |
| | HH size >6 | -22.60 (0.949) |
| Mean total monthly household consumption expenditure per adult equivalent (Ksh – real) | HH size ≤6 | 3542 368.9** (0.0211) |
| | HH size >6 | 66.13 (0.622) |
| Mean monthly food consumption expenditure per adult equivalent (Ksh – real) | HH size ≤6 | 3548 221.7** (0.0239) |
| | HH size >6 | 1.380 (0.989) |
| Mean monthly health expenditure per capita (excluding AIDS drugs) (Ksh – real) | HH size ≤6 | 3542 19.93*** (0.00682) |
| | HH size >6 | 10.97 (0.103) |
| Mean monthly education expenditure per child (Ksh – real) | HH size ≤6 | 3548 30.84 (0.251) |
| | HH size >6 | 17.35 (0.334) |
| Mean monthly non-food expenditure per adult equivalent (Ksh – real) | HH size ≤6 | 3522 112.2** (0.0434) |
| | HH size >6 | 52.08 (0.359) |

| | | |
|---|------------|------------------------|
| | | 3542 |
| Poverty: mean total monthly household consumption expenditure per adult equivalent below \$1 per day (baseline levels) (Ksh – real) | HH size ≤6 | -0.173*** (0.00684) |
| | HH size >6 | -0.0407 (0.656) |
| | | 3548 |
| Poverty: mean total monthly household consumption expenditure per adult equivalent below \$2 per day (baseline levels) (Ksh – real) | HH size ≤6 | -0.130** (0.0315) |
| | HH size >6 | -0.0427 (0.388) |
| | | 3548 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1 p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values. (5) Real consumption expenditure per adult equivalent has been estimated by adjusting nominal expenditure for price differences across districts using a Paasche price index constructed using survey data from the household and community surveys. Follow-up (2009) values have been deflated using an estimate of evaluation location specific intra-survey inflation (1.467), calculated by comparing prices and budget shares between baseline and follow-up surveys. (6) In order to enable valid inter-district comparison, rent has been excluded from the calculation of mean monthly real consumption expenditure. (7) The interacted dummy is constructed based on the median of household size at baseline levels.

We expect that increased food consumption may also translate into an improvement of beneficiary households' diet – at least in small households, where the effects on consumption seem to be concentrated. For this purpose, we calculate a set of binary variables that indicate whether the household has consumed food from eight particular groups (cereals, fish, meat, vegetables, fruit, milk, fats and sugar) during the seven days preceding the survey, as well as an index of dietary diversity. As Table F.7 shows, we find positive and significant effects on five of the eight groups (fish, meat, milk, sugar and, to a lesser extent, fats) and the dietary diversity score.

Table F.7 Impact on dietary diversity

| Indicator | Cross section Difference-in-differences | |
|--|--|-----------------------------|
| | A vs B | A vs B |
| | | (comparable set) |
| Proportion of households that have consumed cereals in the preceding 7 days | -0.00338 (0.373) 3547 | 0.000557 (0.866) 1923 |
| Proportion of households that have consumed fish in the preceding 7 days | 0.163*** (0.00666) 3547 | 0.157** (0.0134) 1923 |
| Proportion of households that have consumed meat in the preceding 7 days | 0.186** (0.0116) 3547 | 0.126 (0.112) 1923 |
| Proportion of households that have consumed vegetables in the preceding 7 days | 0.0493 (0.133) 3547 | 0.0172 (0.459) 1923 |
| Proportion of households that have consumed milk in the preceding 7 days | 0.163*** (0.00127) 3547 | 0.173** (0.0270) 1923 |
| Proportion of households that have consumed fruit in the preceding 7 days | 0.0697 (0.207) 3547 | 0.0654 (0.230) 1923 |
| Proportion of households that have consumed | 0.0532* 3547 | 0.0368 1923 |

| | | |
|---|------------|-----------|
| fats in the preceding 7 days | (0.0961) | (0.301) |
| | 3547 | 1923 |
| Proportion of households that have consumed sugar in the preceding 7 days | 0.146** | 0.137** |
| | (0.0134) | (0.0441) |
| | 3547 | 1923 |
| Mean dietary diversity score of households in the preceding 7 days (0–8) | 0.821*** | 0.701*** |
| | (3.45e-05) | (0.00401) |
| | 3548 | 1924 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1 p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values. (4) Number of observations over which the estimate is generated is given below p-values.

Table F.8 indicates that all groups of households show a significant increase in the dietary diversity score. The increase in consumption of protein rich food items is evenly spread across households with different (baseline) poverty status, but is more evident in smaller households. The positive effects in other essential groups (such as fats, sugar and fruit) are also more concentrated in poorer households, presumably because they had the least diverse diet in the first place.

Table F.8 Heterogeneous impact on dietary diversity

| Indicator | Cross section Difference-in-differences | | | |
|--|--|-----------------------|---------------------|-----------------------|
| | Interaction HH size | | Interaction poverty | |
| | | A vs B | | A vs B |
| proportion of households that have consumed cereals in the preceding 7 days | HH size ≤6 | -0.00181 (0.378) | Consumption ≤median | -0.00863 (0.235) |
| | HH size >6 | -0.00665 (0.516) | Consumption >median | 0.00152 (0.529) |
| | | 3547 | | 3547 |
| proportion of households that have consumed fish in the preceding 7 days | HH size ≤6 | 0.215*** (0.00149) | Consumption ≤median | 0.175** (0.0165) |
| | HH size >6 | 0.0461 (0.509) | Consumption >median | 0.141* (0.0736) |
| | | 3547 | | 3547 |
| proportion of households that have consumed meat in the preceding 7 days | HH size ≤6 | 0.215*** (0.00175) | Consumption ≤median | 0.188** (0.0431) |
| | HH size >6 | 0.121 (0.306) | Consumption >median | 0.171** (0.0399) |
| | | 3547 | | 3547 |
| proportion of households that have consumed vegetables in the preceding 7 days | HH size ≤6 | 0.0359 (0.242) | Consumption ≤median | 0.0607 (0.192) |
| | HH size >6 | 0.0777 (0.145) | Consumption >median | 0.0377 (0.227) |
| | | 3547 | | 3547 |
| proportion of households that have consumed milk in the preceding 7 days | HH size ≤6 | 0.150*** (0.00466) | Consumption ≤median | 0.191** (0.0101) |
| | HH size >6 | 0.190** (0.0161) | Consumption >median | 0.127*** (0.00346) |
| | | 3547 | | 3547 |
| proportion of households that have consumed fruit in the preceding 7 days | HH size ≤6 | 0.0137 (0.830) | Consumption ≤median | 0.162** (0.0174) |
| | HH size >6 | 0.189*** (0.00373) | Consumption >median | -0.0217 (0.740) |
| | | 3547 | | 3547 |

| | | | | |
|---|------------|------------------------|---------------------|------------------------|
| proportion of households that have consumed fats in the preceding 7 days | HH size ≤6 | 0.0609** (0.0320) | Consumption ≤median | 0.0866** (0.0498) |
| | HH size >6 | 0.0364 (0.505) | Consumption >median | 0.0195 (0.454) |
| | | 3547 | | 3547 |
| proportion of households that have consumed sugar in the preceding 7 days | HH size ≤6 | 0.170** (0.0135) | Consumption ≤median | 0.190** (0.0109) |
| | HH size >6 | 0.0916* (0.0861) | Consumption >median | 0.0984* (0.0562) |
| | | 3547 | | 3547 |
| mean dietary diversity score of HHs in the preceding 7 days (0–8) | HH size ≤6 | 0.850*** (3.09e-05) | Consumption ≤median | 1.044*** (8.78e-05) |
| | HH size >6 | 0.745** (0.0129) | Consumption >median | 0.562** (0.0122) |
| | | 3548 | | 3548 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1 p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values. (5) The interacted dummies are constructed based on the median of household size and per adult equivalent consumption expenditure, both at baseline levels.

We would ultimately expect beneficiaries to use part of the resources from the cash transfer to buy assets or make other types of small investments. The survey collected information on housing conditions and household assets. We find some evidence (Table F.9) that the Programme may promote improvements to the dwelling (e.g. increase in the proportion with a toilet/latrine of some kind) and we also find significant increases in the proportion of beneficiary households with radios and bed linen and mosquito nets. These results, however, must be taken with caution, as they are not robust to the alternative model specifications based on full comparable set of households, and may be partly led by self-selection bias.

The only positive and quite critical effect that is robust across specifications is an increase in the probability of beneficiary households owning mosquito nets, which we estimate as being between 14 and 17 percentage points. This is surely an important and unexpected effect of the cash transfer, given the potential long-term consequences on morbidity.

Table F.9 Impact on assets

| Indicator | Cross section Difference-in-differences | |
|--|--|----------------------------|
| | A vs B | A vs B (comparable set) |
| Mean household size | -0.276* (0.0650) | -0.330* (0.0845) |
| | 3548 | 1924 |
| Household dwelling – proportion of OVC households with: (%) | | |
| Poor quality walls (mud/cow dung/grass/sticks) | 0.0206 (0.411) | -0.0110 (0.655) |
| | 3548 | 1924 |
| Poor quality roof (mud/cow dung/grass/sticks) | -0.000433 (0.983) | -0.00612 (0.805) |
| | 3548 | 1924 |
| Poor quality floor (mud/cow dung) | -0.0114 (0.707) | -0.0415 (0.316) |

| | | |
|--|-------------------------|---------------------|
| | 3548 | 1924 |
| Main source of cooking fuel is firewood or residue/animal waste/grass | -0.0647*** (0.00482) | -0.0314 (0.260) |
| | 3548 | 1924 |
| Main source of lighting fuel is electricity | 0.0106 (0.417) | 0.0154 (0.368) |
| | 3548 | 1924 |
| No toilet (toilet is type none/pan/bucket) | -0.106** (0.0329) | -0.0351 (0.502) |
| | 3548 | 1924 |
| Main source of drinking water during the dry season is river, lake or pond | -0.0146 (0.740) | -0.00495 (0.924) |
| | 3548 | 1924 |
| Household assets – proportion of OVC households that own: (%) | | |
| Real estate | 0.0613 (0.192) | 0.0499 (0.300) |
| | 3548 | 1924 |
| Livestock | 0.0198 (0.605) | 0.0306 (0.449) |
| | 3548 | 1924 |
| Radio | 0.107** (0.0164) | 0.0781 (0.193) |
| | 3548 | 1924 |
| Telephone/mobile | 0.0103 (0.796) | -0.0367 (0.494) |
| | 3548 | 1924 |
| Bucket/basin | 0.0170 (0.545) | 0.00330 (0.916) |
| | 3548 | 1924 |
| Table | 0.0225 (0.502) | -0.0104 (0.664) |
| | 3544 | 1922 |
| Chair/wooden stool | 0.0169 (0.661) | -0.0196 (0.545) |
| | 3545 | 1923 |
| Bed linen | 0.131** (0.0137) | 0.104 (0.115) |
| | 3548 | 1924 |
| Blankets | 0.00530 (0.882) | 0.00316 (0.942) |
| | 3548 | 1924 |
| Mosquito net | 0.172*** (0.000131) | 0.140** (0.0133) |
| | 3548 | 1924 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1 p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values. (4) Number of observations over which the estimate is generated is given below p-values.

One concern for the Programme is whether the cash transfer is producing dependency amongst beneficiary households. In the first instance, we find that the number of households relying on the OVC cash transfer as their main source of income increases significantly as a consequence of the Programme. This is not surprising, given the poverty level of the target population. It is more worrying to see that beneficiary households appear to reduce their labour supply, at least in the domain of non-agricultural self-employment. The proportion of

households where no adult member works also seems to increase as an apparent consequence of the Programme.

We argue in the main report that these results require further investigation, as to whether they reflect a perverse incentive of the Programme. From an econometric standpoint, we also observe that both the effects are not robust to the additional specification estimated to a sub-set of fully comparable households. This suggests that they may be driven not by the Programme itself but, rather, by household characteristics that are associated with Programme's participation and are not fully captured by the basic model. It is possible that the fact that household heads in treatment areas are normally older than their counterparts in control areas may explain the differential change observed in labour supply.

Table F.10 Impact on income sources and external support

| Indicator | Cross section Difference-in-differences | |
|---|--|--------------------------------|
| | A vs B | A vs B (comparable set) |
| Proportion of household whose main income comes from: | | |
| Gifts or transfers (including OVC cash transfers) | 0.184*** (1.13e-06) 3548 | 0.152*** (4.67e-05) 1924 |
| OVC cash transfer | 0.217*** (6.86e-07) 3548 | 0.175*** (1.34e-05) 1924 |
| Waged employment | -0.00231 (0.951) 3548 | -0.00881 (0.808) 1924 |
| Agricultural self-employment (farming/livestock) | -0.0441 (0.535) 3548 | -0.0940 (0.154) 1924 |
| Non-agricultural self-employment (e.g. casual/manual labour, fishing) | -0.125** (0.0358) 3548 | -0.0177 (0.769) 1924 |
| Own business/employer | -0.00564 (0.846) 3548 | -0.0212 (0.519) 1924 |
| Investments (property/land rental/interest) | -0.000830 (0.775) 3548 | -0.000284 (0.956) 1924 |
| Pension | 0.00157 (0.657) 3548 | -0.00506* (0.0977) 1924 |
| Does not work | 0.0606** (0.0315) 3548 | 0.0203 (0.504) 1924 |
| Proportion of households receiving external support | -0.0845 (0.130) 3548 | -0.0742 (0.185) 1924 |
| Mean household cash support received per month | 36.73 (0.636) 3384 | 41.43 (0.410) 1830 |
| Mean household total support received per month (cash and in-kind) | 72.79 (0.309) 3231 | 30.37 (0.617) 1745 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1 p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values. (4) Number of observations over which the estimate is generated is given below p-values.

Table F.11 further analyses the Programme's effect on assets and dependency, allowing for heterogeneous response by household size and poverty status. The main effects on assets are concentrated in poor and small households (except for the rise in mosquito net ownership, which occurs across all groups), always sizeable and statistically significant. The analysis of potential dependency issues does not show a clear pattern.

Table F.11 Heterogeneous impact on assets, income sources and external support

| Cross section Difference-in-differences | | | | |
|---|---------------------|------------------------|---------------------|------------------------|
| Indicator | Interaction HH Size | | Interaction poverty | |
| | | A vs B | | A vs B |
| Household assets – proportion of OVC households that own: (%) Radio | HH size ≤6 | 0.120** (0.0192) | Consumption ≤median | 0.136*** (0.00805) |
| | HH size >6 | 0.0757 (0.286) | Consumption >median | 0.0782 (0.156) |
| | | 3548 | | 3548 |
| | HH size ≤6 | 0.143*** (0.00560) | Consumption ≤median | 0.182** (0.0130) |
| | HH size >6 | 0.103 (0.177) | Consumption >median | 0.0820 (0.113) |
| | | 3548 | | 3548 |
| Bed linen | HH size ≤6 | 0.175*** (0.00106) | Consumption ≤median | 0.162** (0.0122) |
| | HH size >6 | 0.167*** (0.00167) | Consumption >median | 0.183*** (0.00148) |
| | | 3548 | | 3548 |
| | HH size ≤6 | 0.175*** (0.00106) | Consumption ≤median | 0.162** (0.0122) |
| | HH size >6 | 0.167*** (0.00167) | Consumption >median | 0.183*** (0.00148) |
| | | 3548 | | 3548 |
| Proportion of household whose main income comes from: Gifts or transfers (including OVC cash transfers) | HH size ≤6 | 0.198*** (4.48e-06) | Consumption ≤median | 0.165*** (7.33e-07) |
| | HH size >6 | 0.152*** (0.00170) | Consumption >median | 0.202*** (0.000120) |
| | | 3548 | | 3548 |
| | HH size ≤6 | 0.235*** (7.83e-07) | Consumption ≤median | 0.219*** (2.49e-08) |
| | HH size >6 | 0.176*** (9.35e-05) | Consumption >median | 0.215*** (4.56e-05) |
| | | 3548 | | 3548 |
| OVC cash transfer | HH size ≤6 | -0.0826 (0.180) | Consumption ≤median | -0.177** (0.0246) |
| | HH size >6 | -0.221*** (0.00692) | Consumption >median | -0.0793 (0.207) |
| | | 3548 | | 3548 |
| | HH size ≤6 | -0.0826 (0.180) | Consumption ≤median | -0.177** (0.0246) |
| | HH size >6 | -0.221*** (0.00692) | Consumption >median | -0.0793 (0.207) |
| | | 3548 | | 3548 |
| Non-agricultural self-employment (e.g. casual/manual labour, fishing) | HH size ≤6 | 0.0776** (0.0203) | Consumption ≤median | 0.0441* (0.0918) |
| | HH size >6 | 0.0241 (0.671) | Consumption >median | 0.0766* (0.0636) |
| | | | | |
| | HH size ≤6 | 0.0776** (0.0203) | Consumption ≤median | 0.0441* (0.0918) |
| | HH size >6 | 0.0241 (0.671) | Consumption >median | 0.0766* (0.0636) |
| | | | | |
| Does not work | HH size ≤6 | 0.0776** (0.0203) | Consumption ≤median | 0.0441* (0.0918) |
| | HH size >6 | 0.0241 (0.671) | Consumption >median | 0.0766* (0.0636) |
| | | | | |
| | HH size ≤6 | 0.0776** (0.0203) | Consumption ≤median | 0.0441* (0.0918) |
| | HH size >6 | 0.0241 (0.671) | Consumption >median | 0.0766* (0.0636) |
| | | | | |

| | | 3548 | | 3548 |
|--|------------|---------|---------------------|---------|
| Proportion of households receiving external support | HH size ≤6 | -0.0970 | Consumption ≤median | -0.0913 |
| | | (0.114) | | (0.147) |
| | HH size >6 | -0.0536 | Consumption >median | -0.0780 |
| | | (0.401) | | (0.269) |
| | | 3548 | | 3548 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1 p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values. (5) The interacted dummies are constructed based on the median of household size and per adult equivalent consumption expenditure, both at baseline levels.

F.2.2 Education

Despite expectations, the Programme did not make a significant contribution to raising enrolment in basic schooling amongst beneficiary children. Both cross-sectional (Table F.12) and cohort (Table F.13) models point to the same conclusion, with no overall significant effect on current enrolment in basic school for children aged six to 13 years.

However, there is some evidence that the Programme may have favoured early enrolment for the youngest cohort of children aged six to seven years. The magnitude of the effect is substantial in the basic specification (a 12 percentage point increase), however, it is not confirmed after imposing the common support (second column in Table F.12).¹¹³

Further disaggregation of the results by sex suggest that, if anything, the Programme may have induced positive changes in basic school enrolment for boys, a hypothesis that is supported by the analysis of heterogeneous returns (Table F.14).

Table F.12 Impact on basic school enrolment: Cross-sectional models

| Indicator | Cross Section - Diff. in Diff. | |
|---|--------------------------------|-----------------------------|
| | A vs. B | A vs. B (comparable set) |
| Proportion of children aged 6-13 years ever attended basic school | 0.0284 (0.144) 6034 | 0.0289 (0.253) 3119 |
| Proportion of children aged 6-13 years currently enrolled in basic school | 0.0257 (0.193) 6028 | 0.0158 (0.554) 3119 |
| Males | 0.0436 (0.100) 3209 | 0.0528* (0.0596) 1629 |
| Females | 0.00107 (0.965) 2819 | -0.0378 (0.272) 1490 |
| Proportion of children aged 6-7 years currently enrolled in basic school | 0.116* (0.0970) 1150 | 0.141 (0.115) 581 |

¹¹³ Cohort models do not allow a test for the effect on this specific age group, as they follow individuals over time and therefore miss the younger cohort at follow-up.

| | | |
|--|-----------------------------|----------------------------|
| Proportion of children aged 8-9 years currently enrolled in basic school | -0.00535 (0.870) 1471 | 0.0256 (0.520) 750 |
| Proportion of children aged 10-11 years currently enrolled in basic school | 0.00705 (0.770) 1580 | -0.00486 (0.871) 828 |
| Proportion of children aged 12-13 years currently enrolled in basic school | 0.00586 (0.788) 1827 | -0.0183 (0.467) 960 |

Sources: OPM OVC-CT evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values.

Table F.13 Impact on basic school enrolment: Cohort models

| Indicator | Cohort - Individual Fixed Effects | Cohort - Individual Dynamic Panel |
|---|--------------------------------------|--------------------------------------|
| | A vs. B | A vs. B |
| Proportion of children aged 6-13 years (at baseline) ever attended school | 0.0237 (0.129) 2847 | 0.0253** (0.0453) 2847 |
| Proportion of children aged 6-13 years (at baseline) currently enrolled in basic school | -0.00850 (0.662) 2841 | -0.00613 (0.690) 2841 |
| Proportion of children aged 6-10 years (at baseline) currently enrolled in basic school | 0.0206 (0.417) 1634 | 0.0242 (0.125) 1634 |

Sources: OPM OVC-CT evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values.

Table F.14 examines heterogeneous effects by household size and consumption level at baseline. It suggests that the Programme may have promoted basic school enrolment for boys in relatively small and richer households. Small households may have benefited more from the cash transfer in relative terms, as the value is fixed at the household level.¹¹⁴ The evidence is still against overall effects on basic school enrolment for girls.

¹¹⁴ Conversely, richer households may be less dependent on child labour for their subsistence, and therefore may face lower opportunity costs attached to enrolment. On the other hand, the result may be driven by the fact that larger households are also generally poorer on a per capita basis.

Table F.14 Heterogeneous impact on basic school enrolment

| Cross Section - Diff. in Diff. | | | | |
|---|---------------------|----------------------|---------------------|----------------------|
| Indicator | Interaction HH Size | | Interaction Poverty | |
| | | A vs. B | | A vs. B |
| Proportion of children aged 6-13 years currently enrolled in basic school | HH size ≤6 | 0.0389* (0.0752) | Consumption ≤median | 0.00335 (0.874) |
| | HH size >6 | 0.0102 (0.735) | Consumption >median | 0.0517** (0.0411) |
| Males | | 6028 | | 6028 |
| | HH size ≤6 | 0.0737** (0.0217) | Consumption ≤median | 0.0108 (0.712) |
| | HH size >6 | 0.00913 (0.811) | Consumption >median | 0.0821** (0.0225) |
| Females | | 3209 | | 3209 |
| | HH size ≤6 | -0.00322 (0.922) | Consumption ≤median | -0.0169 (0.564) |
| | HH size >6 | 0.00585 (0.886) | Consumption >median | 0.0226 (0.511) |
| | | 2819 | | 2819 |
| Proportion of children aged 6-7 years currently enrolled in basic school | HH size ≤6 | 0.144 (0.108) | Consumption ≤median | 0.114 (0.239) |
| | HH size >6 | 0.0876 (0.372) | Consumption >median | 0.120 (0.112) |
| | | 1150 | | 1150 |

Sources: OPM OVC-CT evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values. (5) The interacted dummies are constructed based on the median of household size and per adult equivalent consumption expenditure, both at baseline levels.

We find more positive Programme results on secondary school enrolment. Cross-section models suggest that the Programme has caused a substantial increase in the likelihood that children aged 14 to 17 years in beneficiary households attend a secondary school (Table F.15). They also suggest that impacts seem to be, again, mostly concentrated on boys. However, cohort models do not generally support the impact in general or its concentration in boys (Table F.16).

Table F.15 Impact on secondary school enrolment: Cross-sectional models

| Indicator | Cross Section - Diff. in Diff. | |
|--|--------------------------------|--------------------------------|
| | A vs. B | A vs. B (comparable set) |
| Proportion of children aged 14-17 years ever attended secondary school | 0.0513** (0.0131) 3090 | 0.0264 (0.117) 1714 |
| Proportion of children aged 14-17 years currently enrolled in secondary school | 0.0719** (0.0270) 3089 | 0.102*** (0.000563) 1714 |
| Males | 0.0980** (0.0346) 1767 | 0.116** (0.0227) 991 |
| Females | 0.0642 (0.234) 1322 | 0.0809 (0.161) 723 |
| Proportion of children aged 14-15 years currently enrolled in secondary school | 0.0791** (0.0275) 1797 | 0.118* (0.0521) 972 |
| Proportion of children aged 16-17 years currently enrolled in secondary school | 0.101 (0.120) 1292 | 0.125** (0.0393) 742 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values.

Table F.16 Impact on secondary school enrolment: Cohort model

| Indicator | Cohort - Individual Fixed Effects | Cohort - Individual Dynamic Panel |
|--|--------------------------------------|--------------------------------------|
| | A vs. B | A vs. B |
| Proportion of children aged 14-17 years (at baseline) ever attended school | 0.0104 (0.633) 1018 | -0.000400 (0.983) 1018 |
| Proportion of children aged 14-17 years (at baseline) currently enrolled in secondary school | 0.0344 (0.247) 1016 | 0.0172 (0.595) 1016 |
| Males | 0.0225 (0.433) 614 | 0.0159 (0.560) 614 |
| Females | 0.0825** (0.0213) 402 | 0.0107 (0.811) 402 |
| Proportion of children aged 14-15 years (at baseline) currently enrolled in secondary school | -0.0256 (0.551) 686 | -0.0234 (0.573) 686 |
| Proportion of children aged 16-17 years (at baseline) currently enrolled in secondary school | 0.123* (0.0662) 330 | 0.0732 (0.209) 330 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values.

The analysis of heterogeneity reveals, as a general pattern, that the Programme's impact on secondary school attendance is larger for poorer and smaller households (Table F.17). Poorer households are resource-constrained and should benefit most from the cash injection, and may become able to afford the costs associated with secondary education. We also find some evidence of impacts on secondary school enrolment for girls in poorer households.

Table F.17 Heterogeneous impact on secondary school enrolment

| Indicator | Cross Section - Diff. in Diff. | | | |
|--|--------------------------------|------------------------|---------------------|-------------------------|
| | Interaction HH Size | | Interaction Poverty | |
| | | A vs. B | | A vs. B |
| Proportion of children aged 14-17 years currently enrolled in secondary school | HH size ≤6 | 0.0906*** (0.00976) | Consumption ≤median | 0.0939*** (0.00867) |
| | HH size >6 | 0.0450 (0.358) | Consumption >median | 0.0466 (0.296) |
| | | 3089 | | 3089 |
| | | | | |
| Males | HH size ≤6 | 0.137** (0.0160) | Consumption ≤median | 0.0685* (0.0504) |
| | HH size >6 | 0.0355 (0.543) | Consumption >median | 0.135* (0.0703) |
| | | 1767 | | 1767 |
| | | | | |
| Females | HH size ≤6 | 0.0772 (0.182) | Consumption ≤median | 0.127** (0.0369) |
| | HH size >6 | 0.0408 (0.567) | Consumption >median | -0.0196 (0.793) |
| | | 1322 | | 1322 |
| | | | | |
| Proportion of children aged 14-15 years currently enrolled in secondary school | HH size ≤6 | 0.137** (0.0128) | Consumption ≤median | 0.0982*** (0.000192) |
| | HH size >6 | 0.00688 (0.833) | Consumption >median | 0.0580 (0.371) |
| | | 1797 | | 1797 |
| | | | | |
| Proportion of children aged 16-17 years currently enrolled in secondary school | HH size ≤6 | 0.0669 (0.443) | Consumption ≤median | 0.137** (0.0409) |
| | HH size >6 | 0.136* (0.0797) | Consumption >median | 0.0593 (0.594) |
| | | 1292 | | 1292 |
| | | | | |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values. (5) The interacted dummies are constructed based on the median of household size and per adult equivalent consumption expenditure, both at baseline levels.

The analysis of the Programme's impact on school attendance also suggests differences between basic and secondary schools (Table F.18 and Table F.19). The Programme appears to have slightly increased the average number of days missed at school for children aged six to 13 years who are currently enrolled, though by less than one day, while a decrease in days of absence in older children is not significant.

Table F.18 Impact on school attendance: Cross-sectional models

| Indicator | Cross Section - Diff. in Diff. | |
|---|--------------------------------|-----------------------------|
| | A vs. B | A vs. B (comparable set) |
| Mean number of days of school missed in the most recent two months for children aged 6-13 years who are enrolled in school | 0.429** (0.0281) 5129 | 0.728* (0.0549) 2707 |
| Males | -0.0470 (0.893) 2726 | -0.0609 (0.916) 1405 |
| Females | 0.939* (0.0545) 2403 | 1.622** (0.0274) 1302 |
| Mean number of days of school missed in the most recent two months for children aged 14-17 years who are enrolled in school | -1.122 (0.291) 2513 | -2.030 (0.162) 1407 |
| Males | 0.0724 (0.888) 1488 | -0.519 (0.342) 842 |
| Females | -2.111 (0.245) 1025 | -4.429 (0.164) 565 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values.

Table F.19 Impact on school attendance: Cohort models

| Indicator | Cohort - Individual Fixed Effects | Cohort - Individual Dynamic Panel |
|---|--------------------------------------|--------------------------------------|
| | A vs. B | A vs. B |
| Mean number of days of school missed in the most recent two months for children aged 6-13 years who are enrolled in school | 0.651** (0.0263) 2256 | -0.0369 (0.860) 2256 |
| Mean number of days of school missed in the most recent two months for children aged 14-17 years (at baseline) who are enrolled in school | -1.236 (0.212) 483 | -1.526 (0.114) 483 |
| Males | -0.130 (0.835) 306 | -0.569 (0.338) 306 |
| Females | -2.171 (0.455) 177 | -1.627 (0.471) 177 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values.

F.2.3 Child labour

In this sub-section, we report model results for the analysis of the effect of the Programme on child labour. Sample sizes enable us to analyse the issue separately for two age groups: six to 13 years and 14 to 17 years. We believe that this is an appropriate breakdown with which to examine the interaction of schooling and child labour decisions.

Cross-sectional (Table F.20) and cohort (Table F.22) models suggest that the Programme acts as a disincentive to paid labour for children aged six to 13 years (although the results are not statistically significant for all four of the models). The effect is estimated in the region of a fall of three percentage points, which consists in a reduction to almost zero child labour for this group.

Conversely, we find no evidence of a reduction in the proportion of children aged 14 to 17 years doing paid work. This is a little surprising, given the convincing evidence of a positive effect on secondary school enrolment, particularly for boys. Because of the small proportion of children reporting paid labour, samples sizes are too small to test whether increased school enrolment translates into a reduction of the number of hours worked.

Table F.20 Impact on child labour: Cross-sectional models

| Indicator | Cross section Difference-in-differences | |
|--|--|----------------------------|
| | A vs B | A vs B (comparable set) |
| Proportion of children aged 6-13 years doing paid work | -0.0344** (0.0240) 6125 | -0.0239 (0.181) 3160 |
| Proportion of children aged 14-17 years doing paid work | -0.0193 (0.690) 3101 | 0.0129 (0.812) 1717 |
| Males | 0.0233 (0.665) 1774 | 0.0424 (0.462) 992 |
| Females | -0.0756 (0.148) 1327 | -0.0493 (0.471) 725 |
| Proportion of children aged 6-13 years doing unpaid work | -0.0846 (0.127) 5816 | -0.0732 (0.202) 3026 |
| Proportion of children aged 14-17 years doing unpaid work | -0.0904 (0.141) 2981 | -0.0691 (0.311) 1661 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values.

Table F.21 Impact on hours worked: Cross-sectional models

| Indicator | Cross section Difference-in-differences | |
|--|--|-----------------------------|
| | A vs B | A vs B (comparable set) |
| | | |
| Mean number of hours worked per week for children (aged 6-13) doing unpaid work | -3.072** (0.0242) 4568 | -2.896 (0.109) 2400 |
| Males | -1.922 (0.212) 2406 | -2.199 (0.233) 1247 |
| Females | -4.216*** (0.00305) 2162 | -3.316 (0.116) 1153 |
| Mean number of hours worked per week for children (aged 14-17) doing unpaid work | -6.392** (0.0172) 2528 | -6.145* (0.0629) 1421 |
| Males | -6.204** (0.0214) 1454 | -4.784 (0.139) 830 |
| Females | -6.204** (0.0390) 1074 | -6.236* (0.0772) 591 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values.

We also analyse whether the Programme has affected children's involvement in unpaid work for both age groups (Table F.20, Table F.21 and Table F.22). The results are not consistent between models: the cohort models suggest a reduction in the proportion of younger children undertaking unpaid work, while the cross-sectional models do not suggest an impact.

Cross-sectional models generally indicate a reduction in the numbers of hours worked by children involved in unpaid work, particularly for older children. The effect is evenly spread across boys and girls and is quite substantial, with an estimated reduction of five hours of unpaid work per week in the older children. It is possibly a consequence of increased attendance at secondary school. However, these reductions are not significant in the cohort models.

Table F.22 Impact on child labour: Cohort models

| Indicator | Cohort Individual fixed effects | Cohort Individual dynamic panel |
|--|---------------------------------------|---------------------------------------|
| | A vs B | A vs B |
| Proportion of children aged 6-13 (at baseline) doing paid work | -0.0388** (0.0174) 2908 | -0.0109 (0.306) 2908 |
| Proportion of children aged 14-17 (at baseline) doing paid work | 0.0579 (0.131) 1025 | 0.0445* (0.0606) 1025 |
| Proportion of children aged 6-13 (at baseline) doing unpaid work | -0.106*** (0.00101) 2625 | -0.0612*** (0.000127) 2625 |
| Proportion of children aged 14-17 (at baseline) doing unpaid work | -0.0299 (0.627) 928 | -0.0231 (0.589) 928 |
| Mean number of hours worked per week for children (aged 6-13 at baseline) doing unpaid work | -0.475 (0.695) 1765 | 0.229 (0.574) 1765 |
| Mean number of hours worked per week for children (aged 14-17 at baseline) doing unpaid work | -5.480 (0.160) 506 | -1.479 (0.389) 506 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values.

The consideration of potential heterogeneous effects on child labour across households unravels two elements of interest (Table F.23). The Programme's effect on reducing child labour is generally concentrated in poorer households. For them, the cash injection may be fundamental to freeing up children's time from work and affording schooling costs.¹¹⁵

Contextually, the effect of the Programme on child labour also tends to be greater for larger households. One interpretation is that, in this case, it may be easier to substitute work across children or with other household members, whereas smaller households depend more crucially on the labour supply of all members, including children. On the other hand, the result may be driven by the fact that larger households are also generally poorer on a per capita basis.

Table F.23 Heterogeneous impact on child labour

| Cross Section - Diff. in Diff. | | | | |
|--|------------|---------------------|---------------------|-----------------------|
| Interaction HH Size | | Interaction Poverty | | |
| Indicator | | A vs. B | | A vs. B |
| Proportion of children aged 6-13 years doing paid work | HH size ≤6 | -0.0189 (0.213) | Consumption ≤median | -0.0604** (0.0165) |
| | HH size >6 | -0.0525** | Consumption >median | -0.00533 |

¹¹⁵ This is true both for paid work undertaken by children aged six to 13 years and for the number of hours spent in unpaid work by older children. In this last case, we estimate a fall of 10 hours of unpaid work in households whose income was below the median at baseline.

| | | | | |
|--|------------|----------------------|---------------------|------------------------|
| | | (0.0244) | | (0.753) |
| | | 6125 | | 6125 |
| Proportion of children aged 14-17 years doing paid work | HH size ≤6 | -0.0398 (0.571) | Consumption ≤median | -0.0451 (0.461) |
| | HH size >6 | 0.00671 (0.841) | Consumption >median | 0.0115 (0.821) |
| | | 3101 | | 3101 |
| Proportion of children aged 6-13 years doing unpaid work | HH size ≤6 | -0.0848 (0.164) | Consumption ≤median | -0.124* (0.0511) |
| | HH size >6 | -0.0913 (0.106) | Consumption >median | -0.0412 (0.495) |
| | | 5816 | | 5816 |
| Proportion of children aged 14-17 years doing unpaid work | HH size ≤6 | -0.111 (0.107) | Consumption ≤median | -0.0938* (0.0552) |
| | HH size >6 | -0.0617 (0.342) | Consumption >median | -0.0850 (0.337) |
| | | 2981 | | 2981 |
| Mean number of hours worked per week for children (aged 6-13) doing unpaid work | HH size ≤6 | -2.783** (0.0448) | Consumption ≤median | -5.979*** (0.00422) |
| | HH size >6 | -3.617 (0.131) | Consumption >median | 0.321 (0.841) |
| | | 4568 | | 4568 |
| Mean number of hours worked per week for children (aged 14-17) doing unpaid work | HH size ≤6 | -4.153* (0.0562) | Consumption ≤median | -10.66*** (0.00219) |
| | HH size >6 | -9.427** (0.0456) | Consumption >median | -0.386 (0.885) |
| | | 2528 | | 2528 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values. (5) The interacted dummies are constructed based on the median of household size and per adult equivalent consumption expenditure, both at baseline levels.

F.2.4 Nutrition

Nutritional outcomes are modelled for the youngest cohort of children in the dataset. Hence, together with some of the health outcomes, they are most likely to be affected by individual sample selection bias due to children joining and leaving the dataset between the baseline and follow-up surveys (see sub-section F.1.4). The comparison of cross-sectional and cohort models can be informative in this context.

Our basic cross-sectional specification (Table F.24) shows no significant effect on any of the z-scores (height for age, weight for age and height for weight), nor for their binary counterparts (stunting, underweight and wasting). However, restricting the sample to the most comparable households yields some significant results, including a reduction in the mean weight for age z-score and a rise in the proportion of children becoming stunted.

Table F.24 Impact on nutrition: Cross-sectional models

| Indicator | Cross section Difference-in-differences | |
|--|--|------------------|
| | A vs B | A vs B |
| | | (comparable set) |
| Z-score height for age (under 60 months) | 0.0765 | 0.130 |

| | | |
|---|----------|----------|
| | (0.714) | (0.635) |
| | 1406 | 680 |
| Proportion of children (under 60 months) (<2sd) stunted | -0.0463 | -0.0168 |
| | (0.315) | (0.817) |
| | 1392 | 673 |
| Z-score weight for age (under 60 months) | -0.192 | -0.366** |
| | (0.177) | (0.0481) |
| | 1449 | 705 |
| Proportion of children (under 60 months) (<2sd) underweight | -0.00622 | 0.0805 |
| | (0.901) | (0.122) |
| | 1435 | 698 |
| Z-score height for weight (under 60 months) | -0.0243 | -0.330 |
| | (0.863) | (0.106) |
| | 1398 | 679 |
| Proportion of children (under 60 months) (<2sd) wasted | 0.0595 | 0.0982** |
| | (0.105) | (0.0406) |
| | 1384 | 672 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values.

Cohort models provide a somewhat different picture (Table F.25), as they suggest the Programme may have a positive effect on height for age and weight for age. All signs go in the expected direction; we find the largest and most significant effects when using the dynamic specification, which allows nutritional status at follow-up to depend on its baseline level.

Taken at face value, the difference between cohort and cross-sectional models may suggest a positive effect on relatively older children and negative effects on the very young cohort (0 to 24 months), as we exclude the latter group when using a cohort approach. Unfortunately, group sizes become too small when we break the sample down further, and we cannot fully test for this hypothesis. However, we believe that the cross-sectional results may be driven by sample selection.¹¹⁶ Measurement errors are also potentially biasing estimates reported in this sub-section. In particular, it is possible that these indicators were affected by improvements in the measurement of children (particularly the youngest children) instituted in the follow-up survey, and a substantial proportion of children did not have an exact age in months.¹¹⁷ The analysis of heterogeneous impacts on nutrition shows no consistent pattern.

¹¹⁶ We run additional cross-sectional models on the sub-set of children aged 0 to 60 months that we were able to track during the survey (see Table F.39). We confirm the negative effect on wasting reported in Table F.24, but also find a positive effect on stunting. Jointly, these results are consistent with measurement errors of height and age (see further detail on this in Annex D).

¹¹⁷ The variance of weight, height, HAZ and WAZ (although not WHZ) are all appreciably lower at follow-up. Note that the weight for height measure is independent of age. The anthropometric analysis is detailed in Annex D.

Table F.25 Impact on nutrition: Cohort models

| Indicator | Cohort Individual fixed effects | Cohort Individual dynamic panel |
|---|---------------------------------------|---------------------------------------|
| | A vs. B | A vs. B |
| Z-score height for age (under 60 months at baseline) | 0.363 (0.148) 520 | 0.434*** (0.00925) 520 |
| Proportion of children (under 60 months at baseline) (<2sd) stunted | -0.0665 (0.279) 520 | -0.120** (0.0146) 520 |
| Z-score weight for age (under 60 months at baseline) | 0.104 (0.454) 549 | 0.293** (0.0253) 549 |
| Proportion of children under 60 months (at baseline) (<2sd) underweight | -0.0258 (0.686) 549 | -0.0569 (0.294) 549 |
| Z-score height for weight under 36 months (at baseline) | -0.0384 (0.917) 307 | 0.211 (0.346) 307 |
| Proportion of children under 36 months (at baseline) (<2sd) wasted | 0.0147 (0.824) 307 | -0.0639* (0.0765) 307 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$, p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values. (5) Z-scores calculated for children under and over 60 months (at follow-up) were calculated using separate official WHO algorithms for the two age groups. (6) The WHO algorithm produces weight for height z-scores for children aged 0 to 5 years; hence, a more restrictive cut-off has been used for height for weight and the proportion of children being wasted.

F.2.5 Health

In this sub-section, we describe the modelled results of the effect of the Programme on a set of health-related outcomes. It should be noted that the sample sizes in this table are relatively small, meaning that even some relatively large difference estimates are not statistically significant.

We do not find evidence of significant Programme effects on vaccination rates, or on the proportion of children having a health card (Table F.26 and Table F.27). The results are more contradictory in the case of growth monitoring: cross-sectional models do not highlight any significant effect, whereas, using cohort models, we find a substantial and significant improvement of the probability that children under the age of five years have been weighed by a health worker within the preceding six months. We test whether this discrepancy is due to sample selection bias affecting the cross-sectional models, but we reject this hypothesis (Table F.39).

Table F.26 Impact on health: Cross-sectional models

| Indicator | Cross section Difference-in-differences | |
|---|--|----------------------------|
| | A vs B | A vs B (comparable set) |
| Proportion children aged 1–3 years with a health card | 0.0525 (0.508) 1094 | 0.137 (0.173) 543 |
| Proportion of children 1–3 years fully vaccinated | 0.0311 (0.748) 609 | 0.148 (0.177) 308 |
| Proportion of children aged under 5 years who have been weighed by a health worker within the last six months | -0.00512 (0.930) 1610 | -0.0215 (0.857) 796 |
| Proportion of children aged under 5 years who have been ill with fever | -0.0659 (0.283) 1970 | 0.00771 (0.938) 983 |
| Proportion of children aged under 5 years who have been ill with cough | -0.138* (0.0708) 1969 | -0.0947 (0.404) 982 |
| Proportion of children aged under 5 years who have been ill with diarrhoea | -0.0166 (0.799) 1970 | -0.0419 (0.679) 984 |
| Proportion of children aged under 5 years who have been ill with a fever, cough or diarrhoea at any time within the preceding month whose caregiver sought advice or treatment from an appropriate source of care | 0.127 (0.245) 869 | 0.151 (0.226) 439 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values.

Table F.27 Impact on health: Cohort models

| Indicator | Cohort Individual fixed effects | Cohort Individual dynamic panel |
|---|---------------------------------------|---------------------------------------|
| | A vs B | A vs B |
| Proportion of children aged under 5 years (at baseline) who have been ill with fever | -0.00743 (0.919) 797 | -0.106** (0.0498) 797 |
| Proportion of children aged under 5 years (at baseline) who have been ill with cough | -0.0969 (0.154) 795 | -0.0732 (0.138) 795 |
| Proportion of children aged under 5 years who have been ill with diarrhoea | 0.0738 (0.142) 797 | -0.0421 (0.109) 797 |
| Proportion of children aged under 5 years who have been weighed by a health worker within the last six months | 0.187*** (0.000309) 648 | 0.176*** (0.000539) 648 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values.

We proceed to analyse a set of child morbidity indicators and find no aggregate effect. Signs go generally in the right direction, but the coefficients are generally not statistically significant, although close to standard levels in the case of cohort models (Table F.27).

In Table F.28, we analyse whether this pattern disguises any differential effect on morbidity by household characteristics. The analysis finds statistically significant effects of the Programme in reducing child morbidity (especially fever and respiratory infections) in relatively poorer households. Similarly, we find that the Programme has a stronger effect in smaller households, where the cash benefit resources may be more effectively concentrated on fewer individuals. We estimate substantial effect for these sub-groups, a reduction of between 15 and 20 percentage points in the incidence of fever, cough or diarrhoea.¹¹⁸

Table F.28 Heterogeneous impact on health

| Indicator | Cross section – Difference-in-differences | | | |
|--|---|----------------------|---------------------|----------------------|
| | Interaction HH size | | Interaction poverty | |
| | | A vs B | | A vs B |
| Proportion of children aged 1–3 years fully vaccinated | HH size ≤6 | 0.242** (0.0494) | Consumption ≤median | 0.0611 (0.624) |
| | HH size >6 | -0.153 (0.227) | Consumption >median | 0.00390 (0.980) |
| | | 609 | | 609 |
| | | | | |
| Proportion of children aged 1–3 years with a health card | HH size ≤6 | 0.108 (0.257) | Consumption ≤median | 0.0898 (0.482) |
| | HH size >6 | -0.0343 (0.722) | Consumption >median | 0.00839 (0.925) |
| | | 1094 | | 1094 |
| | | | | |
| Proportion of children aged under 5 years who have been weighed by a health worker within the preceding six months | HH size ≤6 | -0.0486 (0.390) | Consumption ≤median | 0.0503 (0.634) |
| | HH size >6 | 0.0441 (0.563) | Consumption >median | -0.0571 (0.544) |
| | | 1610 | | 1610 |
| | | | | |
| Proportion of children aged under 5 years who have been ill with fever | HH size ≤6 | -0.130 (0.125) | Consumption ≤median | -0.159** (0.0319) |
| | HH size >6 | -0.0138 (0.835) | Consumption >median | 0.0199 (0.803) |
| | | 1970 | | 1970 |
| | | | | |
| Proportion of children aged under 5 years who have been ill with a cough | HH size ≤6 | -0.202** (0.0242) | Consumption ≤median | -0.223** (0.0362) |
| | HH size >6 | -0.0962 (0.275) | Consumption >median | -0.0571 (0.479) |
| | | 1969 | | 1969 |
| | | | | |
| Proportion of children aged under 5 years who have been ill with diarrhoea | HH size ≤6 | -0.151* (0.0907) | Consumption ≤median | -0.115 (0.195) |
| | HH size >6 | 0.0912 (0.293) | Consumption >median | 0.0698 (0.353) |
| | | 1970 | | 1970 |
| | | | | |

¹¹⁸ Some results, particularly those on diarrhoea, should be treated with some caution, since the findings in larger and richer households, although not significant, are in the opposite direction.

| | | | | |
|---|------------|------------------|---------------------|------------------------|
| Proportion of children aged under 5 years who have been ill with a fever, cough or diarrhoea at any time within the preceding month whose caregiver sought advice or treatment from an appropriate source of care | HH size ≤6 | 0.127 (0.399) | Consumption ≤median | 0.369*** (0.000167) |
| | HH size >6 | 0.126 (0.378) | Consumption >median | -0.0985 (0.485) |
| | | 869 | | 869 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values. (5) The interacted dummies are constructed based on the median of household size and per adult equivalent consumption expenditure, both at baseline levels.

F.2.6 Birth registration

Overall, we find a positive effect of the Programme on the probability that children aged between 0 and 17 years in treatment households hold a birth certificate or a registration form. Cross-sectional models estimate an increase of about 11 percentage points, overall. Further disaggregation of the result by age groups suggests that the effect may be mostly concentrated amongst older children, aged 11 to 17 years. For the younger cohorts, we find lower and less significant results when we restrict the estimation to the comparable set of As and Bs. This is one of the few cases when we observe this pattern across models, and we suspect that this may indicate that part of the effect captured by the basic model is driven by selection issues: households whose young members had already a birth certificate or a registration form were more likely to enrol in the Programme in the first place.

Table F.30 additionally shows that the increase in birth certificates appears to benefit better-off households; it is positive but not significant in poorer households.

Table F.29 Impact on birth registration: Cross-sectional models

| Indicator | Cross section Difference-in-differences | |
|--|--|-------------------------------|
| | A vs B | A vs B (comparable set) |
| Proportion of children aged 0–17 years holding a birth certificate or birth registration form | 0.118*** (0.00914) 10594 | 0.115** (0.0341) 5491 |
| Proportion of children aged 0–5 years holding a birth certificate or birth registration form | 0.149** (0.0230) 2400 | 0.0937 (0.115) 1185 |
| Proportion of children aged 6–10 years holding a birth certificate or birth registration form | 0.0982* (0.0948) 3190 | 0.0772 (0.423) 1613 |
| Proportion of children aged 11–17 years holding a birth certificate or birth registration form | 0.112*** (0.00815) 5004 | 0.133*** (0.00704) 2693 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values.

Table F.30 Heterogeneous impact on birth registration

| Cross section Difference-in-differences | | | | |
|---|---------------------|---------------------|---------------------|-----------------------|
| Indicator | Interaction HH size | | Interaction poverty | |
| | | A vs B | | A vs B |
| Proportion of children aged 0–17 years holding a birth certificate or birth registration form | HH size ≤6 | 0.103** (0.0353) | Consumption ≤median | 0.0689 (0.295) |
| | | 0.133* (0.0911) | Consumption >median | 0.175*** (0.00500) |
| | HH size >6 | 10594 | | 10594 |
| | | 0.179* (0.0678) | Consumption ≤median | 0.0835 (0.194) |
| Proportion of children aged 0–5 years holding a birth certificate or birth registration form | HH size ≤6 | 0.103 (0.235) | Consumption >median | 0.223** (0.0185) |
| | | 2400 | | 2400 |
| | HH size >6 | 0.0850 (0.121) | Consumption ≤median | 0.0795 (0.480) |
| | | 0.116 (0.252) | Consumption >median | 0.117* (0.0952) |
| Proportion of children aged 6–10 years holding a birth certificate or birth registration form | HH size ≤6 | 3190 | | 3190 |
| | | 0.0730 (0.105) | Consumption ≤median | 0.0488 (0.317) |
| | HH size >6 | 0.160** (0.0250) | Consumption >median | 0.188*** (0.00150) |
| | | 5004 | | 5004 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values. (5) The interacted dummies are constructed based on the median of household size and per adult equivalent consumption expenditure, both at baseline levels.

F.3 Other tables

Table F.31 Basic specification: Household and community level control variables (baseline)

| | Total | B | A | Diff. | Comparable B | Comparable A | Diff. |
|--|---------|---------|---------|---------|--------------|--------------|---------|
| Household size | 5.665 | 5.658 | 5.677 | 0.019 | 5.633 | 5.48 | -0.153 |
| | [0.160] | [0.149] | [0.342] | [0.373] | [0.183] | [0.266] | [0.323] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Number of females in the household | 2.922 | 2.951 | 2.877 | -0.074 | 2.829 | 2.867 | 0.038 |
| | [0.087] | [0.090] | [0.173] | [0.195] | [0.128] | [0.144] | [0.193] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Number of children in the household | 3.479 | 3.533 | 3.39 | -0.143 | 3.336 | 3.295 | -0.041 |
| | [0.108] | [0.117] | [0.206] | [0.237] | [0.140] | [0.164] | [0.216] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Proportion of households with no adults (aged 20+) | 0.004 | 0.006 | 0.003 | -0.003 | 0.007 | 0.004 | -0.003 |

| | | | | | | | |
|---|---------|---------|---------|---------------|---------|---------|---------|
| years) | | | | | | | |
| | [0.002] | [0.003] | [0.001] | [0.003] | [0.005] | [0.003] | [0.006] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Number of disabled household members | 0.195 | 0.168 | 0.24 | 0.072** | 0.208 | 0.245 | 0.036 |
| | [0.020] | [0.031] | [0.017] | [0.036] | [0.049] | [0.025] | [0.055] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Number of orphans in the household | 2.525 | 2.496 | 2.572 | 0.076 | 2.453 | 2.49 | 0.037 |
| | [0.057] | [0.082] | [0.068] | [0.107] | [0.109] | [0.087] | [0.139] |
| | 1779 | 532 | 1247 | . | 294 | 668 | . |
| Number of ill carers in the household | 0.526 | 0.553 | 0.483 | -0.071 | 0.502 | 0.508 | 0.006 |
| | [0.053] | [0.078] | [0.057] | [0.097] | [0.096] | [0.088] | [0.130] |
| | 1779 | 533 | 1246 | . | 294 | 668 | . |
| Female head | 0.637 | 0.625 | 0.656 | 0.03 | 0.65 | 0.675 | 0.025 |
| | [0.016] | [0.025] | [0.012] | [0.028] | [0.032] | [0.016] | [0.036] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Age of the head | 51.23 | 47.215 | 57.728 | 10.513** * | 53.875 | 56.501 | 2.626 |
| | [0.998] | [1.101] | [1.494] | [1.856] | [1.443] | [1.901] | [2.387] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Age of the head squared | 2923 | 2541 | 3541 | 999*** | 3143 | 3381 | 238 |
| | [102] | [109] | [166] | [199] | [160] | [204] | [259] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Maximum education level of adult members: none (1) | 0.281 | 0.247 | 0.337 | 0.091* | 0.299 | 0.309 | 0.01 |
| | [0.025] | [0.031] | [0.042] | [0.052] | [0.036] | [0.033] | [0.049] |
| | 1779 | 533 | 1246 | . | 294 | 668 | . |
| Maximum education level of adult members: basic incomplete ¹ | 0.217 | 0.206 | 0.235 | 0.029 | 0.224 | 0.249 | 0.025 |
| | [0.016] | [0.023] | [0.019] | [0.030] | [0.033] | [0.024] | [0.041] |
| | 1779 | 533 | 1246 | . | 294 | 668 | . |
| Maximum education level of adult members: Std7 ¹ | 0.111 | 0.127 | 0.086 | -0.042** | 0.099 | 0.093 | -0.006 |
| | [0.011] | [0.016] | [0.010] | [0.019] | [0.021] | [0.012] | [0.024] |
| | 1779 | 533 | 1246 | . | 294 | 668 | . |
| Maximum education level of adult members: Std8 ¹ | 0.176 | 0.183 | 0.164 | -0.019 | 0.137 | 0.147 | 0.011 |
| | [0.015] | [0.020] | [0.022] | [0.030] | [0.023] | [0.024] | [0.033] |
| | 1779 | 533 | 1246 | . | 294 | 668 | . |
| Maximum education level of adult members: Form 1–3 ¹ | 0.074 | 0.077 | 0.069 | -0.008 | 0.067 | 0.068 | 0.001 |
| | [0.010] | [0.016] | [0.010] | [0.019] | [0.016] | [0.010] | [0.019] |
| | 1779 | 533 | 1246 | . | 294 | 668 | . |
| Main household activity: inactive ² | 0.08 | 0.055 | 0.121 | 0.066* | 0.07 | 0.081 | 0.011 |
| | [0.015] | [0.014] | [0.035] | [0.037] | [0.023] | [0.032] | [0.039] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Main household activity: paid employment ² | 0.12 | 0.146 | 0.076 | -0.070* | 0.111 | 0.083 | -0.027 |
| | [0.020] | [0.029] | [0.024] | [0.038] | [0.030] | [0.030] | [0.042] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Main household activity: casual employment ² | 0.137 | 0.121 | 0.164 | 0.043 | 0.133 | 0.108 | -0.025 |
| | [0.020] | [0.023] | [0.038] | [0.045] | [0.027] | [0.026] | [0.038] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Main household activity: own business ² | 0.121 | 0.126 | 0.113 | -0.013 | 0.107 | 0.12 | 0.013 |

Kenya CT-OVC Programme – Operational and Impact Evaluation: 2007-2009

| | | | | | | | |
|---|---------|---------|---------|----------|---------|---------|---------|
| | [0.018] | [0.021] | [0.031] | [0.038] | [0.027] | [0.033] | [0.042] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Main household activity: other (2) | 0.027 | 0.024 | 0.032 | 0.008 | 0.032 | 0.031 | -0.001 |
| | [0.008] | [0.010] | [0.013] | [0.016] | [0.012] | [0.017] | [0.020] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Poor quality walls (mud/cow/dung/grass/sticks) | 0.832 | 0.852 | 0.799 | -0.053 | 0.832 | 0.842 | 0.01 |
| | [0.027] | [0.033] | [0.043] | [0.055] | [0.038] | [0.032] | [0.049] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Electric lighting | 0.068 | 0.075 | 0.057 | -0.017 | 0.065 | 0.053 | -0.012 |
| | [0.023] | [0.029] | [0.039] | [0.049] | [0.029] | [0.039] | [0.048] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Poor quality floor (mud/cow/dung) | 0.726 | 0.747 | 0.69 | -0.057 | 0.736 | 0.735 | -0.001 |
| | [0.039] | [0.047] | [0.067] | [0.082] | [0.049] | [0.058] | [0.076] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Area of farming land owned (acres) | 2.304 | 2.663 | 1.722 | -0.942* | 2.105 | 1.87 | -0.235 |
| | [0.269] | [0.408] | [0.253] | [0.480] | [0.232] | [0.251] | [0.342] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Owns livestock | 0.757 | 0.75 | 0.767 | 0.017 | 0.781 | 0.822 | 0.041 |
| | [0.037] | [0.039] | [0.072] | [0.082] | [0.041] | [0.059] | [0.072] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Number of animals (cattle) | 1.241 | 1.329 | 1.099 | -0.231 | 1.176 | 1.222 | 0.046 |
| | [0.122] | [0.171] | [0.158] | [0.233] | [0.153] | [0.137] | [0.206] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Number of animals (poultry) | 4.472 | 4.936 | 3.72 | -1.216 | 4.331 | 4.185 | -0.146 |
| | [0.375] | [0.513] | [0.528] | [0.736] | [0.402] | [0.627] | [0.745] |
| | 1779 | 533 | 1246 | . | 294 | 668 | . |
| Household receives transfer (formal or informal) | 0.227 | 0.196 | 0.278 | 0.081* | 0.222 | 0.256 | 0.034 |
| | [0.024] | [0.032] | [0.035] | [0.048] | [0.038] | [0.028] | [0.048] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Owns telephone | 0.165 | 0.197 | 0.113 | -0.084** | 0.154 | 0.135 | -0.019 |
| | [0.022] | [0.033] | [0.025] | [0.042] | [0.038] | [0.037] | [0.053] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Owns blankets | 0.851 | 0.852 | 0.85 | -0.003 | 0.862 | 0.891 | 0.029 |
| | [0.039] | [0.048] | [0.066] | [0.081] | [0.043] | [0.059] | [0.073] |
| | 1779 | 532 | 1247 | . | 294 | 668 | . |
| Owns mosquito net | 0.651 | 0.697 | 0.577 | 0.120*** | 0.656 | 0.64 | -0.016 |
| | [0.022] | [0.026] | [0.037] | [0.045] | [0.035] | [0.036] | [0.050] |
| | 1779 | 532 | 1247 | . | 294 | 668 | . |
| Rural | 0.814 | 0.823 | 0.799 | -0.024 | 0.83 | 0.873 | 0.043 |
| | [0.051] | [0.050] | [0.107] | [0.118] | [0.051] | [0.082] | [0.096] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Muslim religion | 0.146 | 0.118 | 0.193 | 0.075 | 0.139 | 0.113 | -0.026 |
| | [0.044] | [0.040] | [0.098] | [0.106] | [0.049] | [0.073] | [0.088] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Number of households living in the community | 2099 | 2163 | 1996 | -168 | 2059 | 1756 | -303 |
| | [586] | [586] | [1208] | [1343] | [564] | [1133] | [1265] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |
| Car access to the community | 0.712 | 0.679 | 0.766 | 0.087 | 0.675 | 0.683 | 0.007 |
| | [0.056] | [0.073] | [0.085] | [0.112] | [0.075] | [0.107] | [0.130] |

| | | | | | | | |
|--|---------|---------|---------|---------|---------|---------|---------|
| Community within 2km of a basic school | 1780 | 533 | 1247 | . | 294 | 668 | . |
| | 0.865 | 0.821 | 0.937 | 0.116* | 0.871 | 0.922 | 0.052 |
| | [0.036] | [0.058] | [0.018] | [0.061] | [0.048] | [0.028] | [0.055] |
| Community within 2km of a secondary school | 1780 | 533 | 1247 | . | 294 | 668 | . |
| | 0.492 | 0.456 | 0.55 | 0.094 | 0.461 | 0.468 | 0.007 |
| | [0.059] | [0.079] | [0.081] | [0.113] | [0.083] | [0.080] | [0.115] |
| Community within 10km of a hospital | 1780 | 533 | 1247 | . | 294 | 668 | . |
| | 0.638 | 0.642 | 0.631 | -0.011 | 0.644 | 0.609 | -0.035 |
| | [0.056] | [0.074] | [0.086] | [0.113] | [0.078] | [0.093] | [0.121] |
| Community within 5km of a health centre | 1780 | 533 | 1247 | . | 294 | 668 | . |
| | 0.51 | 0.551 | 0.444 | -0.108 | 0.556 | 0.53 | -0.026 |
| | [0.065] | [0.083] | [0.107] | [0.135] | [0.086] | [0.112] | [0.141] |
| Community with religious mix | 1780 | 533 | 1247 | . | 294 | 668 | . |
| | 0.581 | 0.646 | 0.476 | -0.17 | 0.603 | 0.528 | -0.075 |
| | [0.060] | [0.075] | [0.097] | [0.122] | [0.084] | [0.102] | [0.132] |
| | 1780 | 533 | 1247 | . | 294 | 668 | . |

Sources: OPM CT-OVC evaluation baseline (2007) data.

Notes: (1) The excluded dummy is: Maximum education of adult members: Form 4 or more. (2) The excluded dummy is: Main household activity: farmer. (3) Standard error of the coefficient in parentheses, *** p<0.01; ** p<0.05; * p<0.1. Number of observations over which the estimate is generated is given below standard error. (4) Estimates are weighted and standard errors are clustered at the sub-location level. (5) Panelled households only. OVC households at baseline.

Table F.32 Basic specification: Child-level control variables (baseline)

| | Total | A | B | Difference | Comparable A | Comparable B | Difference |
|------------------|---------|---------|---------|------------|--------------|--------------|------------|
| Age | 9.302 | 9.528 | 9.168 | 0.36 | 9.548 | 9.913 | -0.366 |
| | [0.117] | [0.228] | [0.106] | [0.251] | [0.192] | [0.226] | [0.296] |
| | 6036 | 4139 | 1897 | . | 2167 | 984 | . |
| Age squared | 109.202 | 112.132 | 107.466 | 4.666 | 112.699 | 121.093 | -8.394 |
| | [2.032] | [3.514] | [2.229] | [4.162] | [2.911] | [4.926] | [5.722] |
| | 6036 | 4139 | 1897 | . | 2167 | 984 | . |
| Male | 0.528 | 0.547 | 0.516 | 0.032** | 0.527 | 0.537 | -0.009 |
| | [0.008] | [0.008] | [0.013] | [0.015] | [0.009] | [0.016] | [0.018] |
| | 6033 | 4139 | 1894 | . | 2167 | 981 | . |
| Father is dead | 0.614 | 0.625 | 0.607 | 0.018 | 0.627 | 0.619 | 0.008 |
| | [0.023] | [0.039] | [0.028] | [0.048] | [0.029] | [0.026] | [0.039] |
| | 6036 | 4139 | 1897 | . | 2167 | 984 | . |
| Mother is dead | 0.353 | 0.44 | 0.301 | 0.139** | 0.438 | 0.348 | 0.09 |
| | [0.029] | [0.045] | [0.034] | [0.056] | [0.051] | [0.050] | [0.072] |
| | 6026 | 4134 | 1892 | . | 2166 | 980 | . |
| Chronically ill | 0.034 | 0.03 | 0.037 | -0.006 | 0.031 | 0.036 | -0.005 |
| | [0.004] | [0.004] | [0.006] | [0.007] | [0.006] | [0.006] | [0.008] |
| | 6036 | 4139 | 1897 | . | 2167 | 984 | . |
| Age of the carer | 43.772 | 48.732 | 40.832 | 7.901*** | 47.926 | 46.406 | 1.52 |
| | [1.403] | [1.993] | [1.382] | [2.425] | [2.102] | [1.744] | [2.732] |
| | 6036 | 4139 | 1897 | . | 2167 | 984 | . |
| | 0.109 | 0.13 | 0.096 | 0.034* | 0.118 | 0.108 | 0.01 |

| | | | | | | | |
|--------------------------|---------|---------|---------|-----------|---------|---------|---------|
| Gender of the carer | [0.010] | [0.009] | [0.014] | [0.017] | [0.009] | [0.022] | [0.024] |
| | 6035 | 4138 | 1897 | . | 2167 | 984 | . |
| Mum is carer | 0.549 | 0.444 | 0.612 | -0.168*** | 0.466 | 0.549 | -0.083 |
| | [0.031] | [0.047] | [0.031] | [0.057] | [0.059] | [0.047] | [0.075] |
| | 6035 | 4138 | 1897 | . | 2167 | 984 | . |
| Carer if chronically ill | 0.151 | 0.142 | 0.157 | -0.014 | 0.154 | 0.151 | 0.004 |
| | [0.017] | [0.019] | [0.024] | [0.031] | [0.027] | [0.024] | [0.036] |
| | 6035 | 4138 | 1897 | . | 2167 | 984 | . |

Sources: OPM CT-OVC evaluation baseline (2007) data.

Notes: (1) standard error of the coefficient in parentheses, *** p<0.01; ** p<0.05; * p<0.1. Number of observations over which the estimate is generated is given below standard error. (2) Estimates are weighted and standard errors are clustered at the sub-location level. (3) Panelled households only. OVC households at baseline.

Table F.33 Baseline differences in child-level outcome

| | Total | B | A | Difference | Comparable B | Comparable A | Difference |
|--|--------------------------|-------------------------|-------------------------|------------------------|-------------------------|-------------------------|------------------------|
| Proportion of children aged under 60 months (<2sd) stunted | 0.428 [0.036] 693 | 0.436 [0.044] 248 | 0.413 [0.066] 445 | -0.023 [0.079] . | 0.467 [0.052] 100 | 0.4 [0.100] 237 | -0.067 [0.113] . |
| Proportion of children aged under 60 months (<2sd) underweight | 0.202 [0.028] 721 | 0.2 [0.038] 262 | 0.205 [0.032] 459 | 0.005 [0.050] . | 0.218 [0.040] 107 | 0.197 [0.053] 247 | -0.022 [0.067] . |
| Proportion of children aged under 60 months (<2sd) wasted | 0.09 [0.019] 701 | 0.103 [0.026] 256 | 0.065 [0.014] 445 | -0.038 [0.030] . | 0.11 [0.029] 104 | 0.057 [0.014] 239 | -0.053 [0.032] . |
| Proportion of children aged 0–5 years fully vaccinated | 0.687 [0.060] 392 | 0.669 [0.077] 139 | 0.725 [0.085] 253 | 0.056 [0.115] . | 0.765 [0.091] 57 | 0.662 [0.089] 134 | -0.104 [0.127] . |
| Proportion of children aged 1–3 years fully vaccinated | 0.704 [0.059] 333 | 0.67 [0.072] 112 | 0.767 [0.087] 221 | 0.097 [0.113] . | 0.785 [0.111] 45 | 0.709 [0.088] 120 | -0.076 [0.142] . |
| Proportion of children aged under 5 years who have been ill with a fever or cough or diarrhoea | 0.667 [0.031] 978 | 0.698 [0.036] 329 | 0.61 [0.046] 649 | -0.088 [0.058] . | 0.679 [0.063] 145 | 0.64 [0.055] 353 | -0.04 [0.084] . |
| Proportion of children aged under 5 years who have been ill with fever | 0.521 [0.042] 1167 | 0.552 [0.055] 400 | 0.46 [0.048] 767 | -0.091 [0.073] . | 0.55 [0.079] 180 | 0.492 [0.057] 409 | -0.059 [0.097] . |
| Proportion of children aged under 5 years who have been ill with cough | 0.52 [0.035] 1166 | 0.531 [0.049] 400 | 0.499 [0.041] 766 | -0.032 [0.064] . | 0.499 [0.089] 180 | 0.522 [0.056] 408 | 0.023 [0.105] . |
| Proportion of children aged under 5 years who have been ill with diarrhoea | 0.221 [0.020] 1165 | 0.238 [0.027] 399 | 0.187 [0.021] 766 | -0.051 [0.034] . | 0.271 [0.054] 180 | 0.196 [0.032] 408 | -0.074 [0.063] . |

Kenya CT-OVC Programme – Operational and Impact Evaluation: 2007–2009

| | | | | | | | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------|--------------------------|--------------------------|
| Proportion children aged 1–3 years with a health card | 0.612 [0.041] 540 | 0.64 [0.053] 184 | 0.56 [0.069] 356 | -0.08 [0.087] . | 0.683 [0.065] 74 | 0.517 [0.078] 191 | -0.167 [0.102] . |
| Proportion of children aged under 5 years who have been weighed by a health worker within the preceding six months | 0.256 [0.030] 782 | 0.229 [0.030] 259 | 0.304 [0.052] 523 | 0.075 [0.060] . | 0.228 [0.066] 109 | 0.286 [0.082] 282 | 0.058 [0.105] . |
| Proportion of children aged 6-13 years ever attended school | 0.888 [0.015] 3206 | 0.887 [0.019] 956 | 0.888 [0.026] 2250 | 0.001 [0.032] . | 0.891 [0.025] 494 | 0.903 [0.024] 1171 | 0.011 [0.035] . |
| Proportion of children aged 14-17 years ever attended school | 0.87 [0.013] 4521 | 0.872 [0.016] 1378 | 0.866 [0.024] 3143 | -0.005 [0.028] . | 0.86 [0.023] 752 | 0.882 [0.023] 1654 | 0.022 [0.033] . |
| Proportion of children aged 6-13 years currently enrolled in basic school | 0.856 [0.016] 3201 | 0.854 [0.020] 956 | 0.86 [0.025] 2245 | 0.006 [0.032] . | 0.853 [0.022] 494 | 0.872 [0.024] 1171 | 0.019 [0.033] . |
| Proportion of children aged 14-17 years currently enrolled in secondary school | 0.147 [0.025] 1320 | 0.152 [0.036] 422 | 0.139 [0.025] 898 | -0.013 [0.044] . | 0.175 [0.056] 258 | 0.132 [0.021] 483 | -0.044 [0.059] . |
| Mean number of days of school missed in the most recent two months for children aged 6-13 years who are enrolled in basic school | 1.627 [0.187] 2751 | 1.911 [0.252] 814 | 1.186 [0.102] 1937 | -0.726** [0.272] . | 2.154 [0.322] 426 | 1.358 [0.163] 1033 | -0.796** [0.361] . |
| Mean number of days of school missed in the most recent two months for children aged 14-17 years who are enrolled in secondary school | 1.712 [0.182] 1106 | 1.765 [0.227] 368 | 1.613 [0.303] 738 | -0.152 [0.378] . | 1.452 [0.360] 216 | 1.598 [0.264] 410 | 0.146 [0.446] . |
| Proportion of children aged 6-13 years doing paid work | 0.037 [0.007] 3259 | 0.026 [0.007] 971 | 0.054 [0.012] 2288 | 0.028* [0.015] . | 0.033 [0.010] 500 | 0.049 [0.014] 1188 | 0.016 [0.018] . |
| Proportion of children aged 14-17 years doing paid work | 0.127 [0.020] 1322 | 0.129 [0.026] 423 | 0.124 [0.032] 899 | -0.005 [0.041] . | 0.167 [0.035] 259 | 0.123 [0.035] 483 | -0.044 [0.049] . |
| Proportion of children aged 6-13 years doing unpaid work | 0.782 [0.034] 2947 | 0.766 [0.049] 879 | 0.806 [0.042] 2068 | 0.04 [0.065] . | 0.772 [0.045] 453 | 0.788 [0.046] 1101 | 0.016 [0.064] . |
| Proportion of children aged 14-17 years doing unpaid work | 0.87 [0.035] 1202 | 0.859 [0.049] 396 | 0.889 [0.044] 806 | 0.03 [0.065] . | 0.854 [0.060] 241 | 0.891 [0.043] 445 | 0.038 [0.073] . |

| | | | | | | | |
|--|---------------------------|--------------------------|---------------------------|-------------------------|--------------------------|--------------------------|-----------------------|
| Mean number of hours worked per week for children (aged 6-13) doing unpaid work | 14.499 [0.893] 2292 | 13.135 [1.247] 665 | 16.471 [1.249] 1627 | 3.336* [1.765] . | 14.307 [1.224] 351 | 15.995 [1.635] 855 | 1.688 [2.042] . |
| Mean number of hours worked per week for children (aged 14-17) doing unpaid work | 18.512 [1.327] 1047 | 16.412 [1.659] 336 | 22.229 [1.778] 711 | 5.817** [2.432] . | 17.252 [1.621] 202 | 21.819 [2.567] 395 | 4.566 [3.036] . |

Sources: OPM CT-OVC evaluation baseline (2007) data.

Notes: (1) Standard error of the coefficient in parentheses, *** p<0.01; ** p<0.05; * p<0.1. Number of observations over which the estimate is generated is given below standard error. (2) Estimates are weighted and standard errors are clustered at the sub-location level. (3) Panelled households only. OVC households at baseline.

Table F.34 Comparison of probit and linear probability model estimated effects: Selected outcome

| | Estimated Probit marginal effect | Correct Probit marginal effect | Linear probability model effect |
|--|----------------------------------|--------------------------------|---------------------------------|
| Proportion of children 1-3 years fully vaccinated | 0.0166 (0.888) 607 | 0.0138 | 0.0311 (0.748) 609 |
| Proportion of children <5 who have been ill with a cough | -0.144* (0.0508) 2873 | -0.128 | -0.125* (0.0801) 2873 |
| Proportion of children aged 6-13 years currently enrolled in basic school | 0.0183 (0.239) 6025 | 0.0207 | 0.0257 (0.193) 6028 |
| Proportion of children aged 14-17 years currently enrolled in secondary school | 0.0590** (0.0401) 3087 | 0.0603 | 0.0719** (0.0270) 3089 |
| Proportion of children aged 6-13 years doing paid work | -0.00862** (0.0267) 6097 | -0.0223 | -0.0344** (0.0240) 6125 |
| Proportion of children aged 6-13 years doing unpaid work | -0.0998* (0.0920) 5813 | -0.0785 | -0.0846 (0.127) 5816 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values.

Table F.35 Selection model: A versus B

| | Total |
|---|---------------------------|
| Household size | 0.0452 (0.0438) |
| Number of females in the household | -0.0473 (0.0409) |
| Number of children in the household | -0.0344 (0.0571) |
| Proportion of households with no adults (aged 20+ years) | 2.517*** (0.534) |
| Number of disabled household members | 0.0133 (0.0795) |
| Number of orphans in the household | 0.0592 (0.0381) |
| Number of ill carers in the household | -0.0225 (0.0320) |
| Female head | -0.0279 (0.102) |
| Age of the head | 0.152*** (0.0180) |
| Age of the head squared | -0.00108*** (0.000159) |
| Maximum education of adult members: none ¹ | 0.233 (0.185) |
| Maximum education of adult members: basic level incomplete ¹ | 0.384** (0.173) |
| Maximum education of adult members: Std7 ¹ | 0.281 (0.186) |
| Maximum education of adult members: Std8 ¹ | 0.510*** (0.158) |
| Maximum education of adult members: Form 1–3 ¹ | 0.410** (0.183) |
| Main household activity: inactive ² | 0.221 (0.185) |
| Main household activity: paid employment ² | -0.277* (0.163) |
| Main household activity: casual employment ² | 0.381*** (0.139) |
| Main household activity: own business ² | -0.0813 (0.136) |
| Main household activity: other ² | -0.0641 (0.240) |
| Poor quality walls (mud/cow/dung/grass/sticks) | -0.167 (0.147) |
| Electric lighting | -0.0920 (0.250) |
| Poor quality floor (mud/cow/dung) | -0.0869 (0.136) |

| | |
|--|----------------------------|
| Area of farming land owned (acres) | -0.0433** (0.0190) |
| Owns livestock | 0.166 (0.123) |
| Number of animals (cattle) | -0.0347* (0.0185) |
| Number of animals (poultry) | 0.00181 (0.00777) |
| Household receives transfer (formal or informal) | -0.0238 (0.112) |
| Owns telephone | -0.324** (0.130) |
| Owns blankets | 0.355* (0.185) |
| Owns mosquito net | -0.235** (0.0916) |
| Rural | -0.648*** (0.219) |
| Muslim religion | 0.169 (0.337) |
| Number of household living in the community | -0.000130*** (4.08e-05) |
| Car access to the community | 0.392*** (0.128) |
| Community within 2km of a basic school | 0.821*** (0.150) |
| Community within 2km of a secondary school | 0.578*** (0.107) |
| Community within 10km of a hospital | 0.0412 (0.111) |
| Community within 5km of a health center | -0.694*** (0.117) |
| Community with religious mix | -0.926*** (0.104) |
| District: Garissa ³ | 0.567 (0.443) |
| District: Homabay ³ | -0.534*** (0.176) |
| District: Kisumu ³ | -0.732*** (0.195) |
| District: Kwale ³ | 0.165 (0.358) |
| District: Migori ³ | -0.794*** (0.141) |
| District: Nairobi ³ | 1.686*** (0.501) |
| Missing: age of the head | 4.355*** (0.649) |
| Constant | -4.965*** (0.651) |
| Observations | 1773 |

Pseudo R-squared

0.2857

Sources: OPM CT-OVC evaluation baseline (2007) data.

Notes: (1) The excluded dummy is: Maximum education of adult members: Form 4 or more. (2) The excluded dummy is: Main household activity: farmer. (3) The excluded dummy is: District: Suba. (4) P-values of the coefficient in parentheses, *** p<0.01; ** p<0.05; * p<0.1. (5) Estimates are weighted (6) Panelled households only. OVC households at baseline.

Table F.36 Household attrition: Comparison of households characteristics at baseline

| | Total | Total Non-attritors | | | Attritors | | |
|---|-------------------|---------------------|------------------|---------------------|------------------|-------------------|----------------------|
| | | Attritors | Non-attritors | Diff. | A | B | Diff. |
| Household size | 5.625 [0.153] | 5.483 [0.211] | 5.665 [0.174] | -0.182 [0.273] | 5.33 [0.290] | 5.528 [0.258] | -0.198 [0.388] |
| | 2156 | 376 | 1780 | . | 208 | 168 | . |
| Number of females in the household | 2.923 [0.082] | 2.926 [0.134] | 2.922 [0.090] | 0.003 [0.162] | 2.718 [0.133] | 2.986 [0.165] | -0.268 [0.212] |
| | 2156 | 376 | 1780 | . | 208 | 168 | . |
| Number of children in the household | 3.452 [0.101] | 3.357 [0.112] | 3.479 [0.121] | -0.122 [0.164] | 3.129 [0.177] | 3.424 [0.137] | -0.295 [0.224] |
| | 2156 | 376 | 1780 | . | 208 | 168 | . |
| Proportion of households with no adults (aged 20+ years) | 0.004 [0.002] | 0.001 [0.001] | 0.004 [0.003] | -0.004 [0.003] | 0.004 [0.004] | 0 [0.000] | 0.004 [0.004] |
| | 2156 | 376 | 1780 | . | 208 | 168 | . |
| Number of disabled household members | 0.184 [0.018] | 0.144 [0.029] | 0.195 [0.017] | -0.051* [0.034] | 0.204 [0.047] | 0.127 [0.033] | 0.077 [0.057] |
| | 2156 | 376 | 1780 | . | 208 | 168 | . |
| Number of orphans in the household | 2.449 [0.055] | 2.188 [0.080] | 2.525 [0.068] | 0.337*** [0.104] | 2.324 [0.108] | 2.148 [0.093] | 0.177 [0.142] |
| | 2155 | 376 | 1779 | . | 208 | 168 | . |
| Number of ill carers in the household | 0.513 [0.051] | 0.465 [0.077] | 0.526 [0.064] | -0.061 [0.101] | 0.484 [0.088] | 0.46 [0.097] | 0.024 [0.131] |
| | 2155 | 376 | 1779 | . | 208 | 168 | . |
| Female head | 0.619 [0.013] | 0.556 [0.034] | 0.637 [0.014] | -0.081** [0.037] | 0.644 [0.031] | 0.53 [0.041] | 0.114** [0.051] |
| | 2156 | 376 | 1780 | . | 208 | 168 | . |
| Age of the head | 49.008 [1.733] | 41.259 [2.113] | 51.23 [1.616] | 9.971*** [2.660] | 53.51 [2.228] | 37.669 [2.109] | 15.841*** [3.068] |
| | 2156 | 376 | 1780 | . | 208 | 168 | . |
| Maximum education of adult members: none ¹ | 0.281 [0.035] | 0.281 [0.051] | 0.281 [0.034] | -0.001 [0.061] | 0.389 [0.062] | 0.25 [0.061] | 0.139 [0.086] |
| | 2144 | 365 | 1779 | . | 200 | 165 | . |
| Maximum education of adult members: basic level incomplete ¹ | 0.203 [0.017] | 0.154 [0.034] | 0.217 [0.018] | -0.062 [0.038] | 0.211 [0.029] | 0.138 [0.041] | 0.072 [0.051] |
| | 2144 | 365 | 1779 | . | 200 | 165 | . |
| Maximum education of adult members: Std7 ¹ | 0.118 [0.014] | 0.14 [0.040] | 0.111 [0.014] | 0.028 [0.043] | 0.092 [0.025] | 0.153 [0.051] | -0.061 [0.057] |
| | 2144 | 365 | 1779 | . | 200 | 165 | . |

Kenya CT-OVC Programme – Operational and Impact Evaluation: 2007-2009

| | | | | | | | |
|---|--------------------------|-------------------------|--------------------------|--------------------------|-------------------------|-------------------------|-------------------------|
| Maximum education of adult members: Std8 ¹ | 0.181 [0.017] 2144 | 0.201 [0.034] 365 | 0.176 [0.017] 1779 | 0.025 [0.038] . | 0.14 [0.020] 200 | 0.218 [0.044] 165 | -0.078 [0.049] . |
| Maximum education of adult members: Form 1–3 ¹ | 0.07 [0.010] 2144 | 0.055 [0.012] 365 | 0.074 [0.012] 1779 | -0.019 [0.017] . | 0.04 [0.016] 200 | 0.059 [0.014] 165 | -0.02 [0.021] . |
| Main household activity: inactive ² | 0.076 [0.016] 2156 | 0.061 [0.019] 376 | 0.08 [0.017] 1780 | -0.019 [0.026] . | 0.096 [0.027] 208 | 0.051 [0.024] 168 | 0.044 [0.036] . |
| Main household activity: paid employment ² | 0.129 [0.037] 2156 | 0.16 [0.047] 376 | 0.12 [0.033] 1780 | 0.040** [0.058] . | 0.069 [0.033] 208 | 0.186 [0.056] 168 | -0.117* [0.066] . |
| Main household activity: casual employment ² | 0.147 [0.025] 2156 | 0.18 [0.041] 376 | 0.137 [0.022] 1780 | 0.042 [0.047] . | 0.157 [0.043] 208 | 0.186 [0.051] 168 | -0.029 [0.067] . |
| Main household activity: own business ² | 0.125 [0.014] 2156 | 0.14 [0.021] 376 | 0.121 [0.016] 1780 | 0.019 [0.026] . | 0.097 [0.024] 208 | 0.152 [0.025] 168 | -0.056 [0.035] . |
| Main household activity: other ² | 0.027 [0.009] 2156 | 0.028 [0.009] 376 | 0.027 [0.010] 1780 | 0 [0.013] . | 0.038 [0.014] 208 | 0.025 [0.011] 168 | 0.013 [0.018] . |
| Poor quality walls (mud/cow/dung/grass/sticks) | 0.806 [0.061] 2156 | 0.715 [0.122] 376 | 0.832 [0.045] 1780 | -0.117 [0.130] . | 0.846 [0.035] 208 | 0.677 [0.152] 168 | 0.169 [0.156] . |
| Electric lighting | 0.098 [0.053] 2156 | 0.203 [0.103] 376 | 0.068 [0.037] 1780 | 0.135* [0.109] . | 0.071 [0.051] 208 | 0.242 [0.127] 168 | -0.171 [0.137] . |
| Poor quality floor (mud/cow/dung) | 0.695 [0.077] 2156 | 0.587 [0.129] 376 | 0.726 [0.063] 1780 | -0.139 [0.143] . | 0.738 [0.073] 208 | 0.543 [0.159] 168 | 0.195 [0.175] . |
| Area of farming land owned (acres) | 2.169 [0.270] 2156 | 1.699 [0.254] 376 | 2.304 [0.311] 1780 | -0.605* [0.402] . | 1.684 [0.328] 208 | 1.703 [0.315] 168 | -0.019 [0.454] . |
| Owns livestock | 0.723 [0.067] 2156 | 0.607 [0.099] 376 | 0.757 [0.057] 1780 | -0.150** [0.115] . | 0.756 [0.073] 208 | 0.563 [0.120] 168 | 0.193 [0.140] . |
| Number of animals (cattle) | 1.233 [0.168] 2156 | 1.203 [0.242] 376 | 1.241 [0.160] 1780 | -0.038 [0.290] . | 1.138 [0.269] 208 | 1.223 [0.304] 168 | -0.085 [0.406] . |
| Number of animals (poultry) | 4.166 [0.551] 2155 | 3.098 [0.636] 376 | 4.472 [0.548] 1779 | 1.374*** [0.839] . | 3.311 [0.601] 208 | 3.035 [0.796] 168 | 0.276 [0.998] . |
| Household receives transfer (formal or informal) | 0.226 [0.027] 2156 | 0.22 [0.044] 376 | 0.227 [0.027] 1780 | -0.007 [0.052] . | 0.305 [0.063] 208 | 0.195 [0.052] 168 | 0.109 [0.082] . |
| Owns telephone | 0.194 [0.056] 2156 | 0.297 [0.090] 376 | 0.165 [0.045] 1780 | 0.132** [0.101] . | 0.131 [0.037] 208 | 0.345 [0.109] 168 | -0.214* [0.116] . |
| Owns blankets | 0.856 [0.056] 2156 | 0.871 [0.090] 376 | 0.851 [0.045] 1780 | 0.019 [0.101] . | 0.835 [0.037] 208 | 0.881 [0.109] 168 | -0.046 [0.116] . |

| | | | | | | | |
|-------------------|---------|---------|---------|---------|---------|---------|---------|
| | [0.055] | [0.066] | [0.055] | [0.086] | [0.085] | [0.080] | [0.117] |
| | 2155 | 376 | 1779 | . | 208 | 168 | . |
| Owns mosquito net | 0.637 | 0.586 | 0.651 | -0.065 | 0.602 | 0.581 | 0.021 |
| | [0.024] | [0.044] | [0.025] | [0.050] | [0.041] | [0.055] | [0.069] |
| | 2154 | 375 | 1779 | . | 208 | 167 | . |
| Rural | 0.778 | 0.654 | 0.814 | -0.160* | 0.793 | 0.613 | 0.18 |
| | [0.092] | [0.143] | [0.078] | [0.163] | [0.108] | [0.177] | [0.208] |
| | 2156 | 376 | 1780 | . | 208 | 168 | . |
| Muslim religion | 0.149 | 0.157 | 0.146 | 0.011 | 0.155 | 0.158 | -0.003 |
| | [0.054] | [0.059] | [0.056] | [0.082] | [0.083] | [0.072] | [0.110] |
| | 2156 | 376 | 1780 | . | 208 | 168 | . |

Sources: OPM CT-OVC evaluation baseline (2007) data.

Notes: (1) The excluded dummy is: Maximum education of adult members: Form 4 or more. (2) The excluded dummy is: Main household activity: farmer. (3) Standard error of the coefficient in parentheses, *** p<0.01; ** p<0.05; * p<0.1. Number of observations over which the estimate is generated is given below standard error. (4) Estimates are weighted and standard errors are clustered at the sub-location level. (5) Panelled households only. OVC households at baseline.

Table F.37 Individual-level panel changes: Baseline characteristic of children aged 0–17 years leaving the sample

| | Total | Total Non-attritors | | | Attritors | | |
|--------------------------|---------|---------------------|---------------|------------|-----------|---------|------------|
| | | Attritors | Non-attritors | Difference | A | B | Difference |
| Age | 9.302 | 9.141 | 9.325 | -0.185 | 9.502 | 8.886 | 0.616 |
| | [0.117] | [0.284] | [0.110] | [0.305] | [0.481] | [0.329] | [0.583] |
| | 6036 | 791 | 5245 | . | 566 | 225 | . |
| Male | 0.528 | 0.451 | 0.539 | -0.088*** | 0.474 | 0.434 | 0.04 |
| | [0.008] | [0.014] | [0.010] | [0.017] | [0.023] | [0.020] | [0.030] |
| | 6033 | 788 | 5245 | . | 566 | 222 | . |
| Father is dead | 0.614 | 0.561 | 0.621 | -0.06 | 0.564 | 0.56 | 0.004 |
| | [0.023] | [0.047] | [0.021] | [0.051] | [0.071] | [0.062] | [0.094] |
| | 6036 | 791 | 5245 | . | 566 | 225 | . |
| Mother is dead | 0.353 | 0.407 | 0.345 | 0.062* | 0.423 | 0.396 | 0.028 |
| | [0.029] | [0.046] | [0.029] | [0.055] | [0.073] | [0.060] | [0.094] |
| | 6026 | 791 | 5235 | . | 566 | 225 | . |
| Chronically ill | 0.034 | 0.014 | 0.037 | -0.024*** | 0.022 | 0.007 | 0.015* |
| | [0.004] | [0.005] | [0.005] | [0.007] | [0.006] | [0.005] | [0.008] |
| | 6036 | 791 | 5245 | . | 566 | 225 | . |
| Age of the carer | 43.772 | 43.5 | 43.813 | -0.312 | 46.325 | 41.504 | 4.821 |
| | [1.403] | [2.674] | [1.398] | [3.017] | [3.035] | [3.856] | [4.907] |
| | 6036 | 791 | 5245 | . | 566 | 225 | . |
| Gender of the carer | 0.109 | 0.123 | 0.106 | 0.017 | 0.117 | 0.127 | -0.01 |
| | [0.010] | [0.020] | [0.011] | [0.022] | [0.021] | [0.030] | [0.037] |
| | 6035 | 791 | 5244 | . | 566 | 225 | . |
| Mother is carer | 0.549 | 0.454 | 0.563 | -0.109** | 0.448 | 0.459 | -0.011 |
| | [0.031] | [0.053] | [0.031] | [0.062] | [0.083] | [0.069] | [0.108] |
| | 6035 | 791 | 5244 | . | 566 | 225 | . |
| Carer is chronically ill | 0.151 | 0.165 | 0.149 | 0.016 | 0.151 | 0.176 | -0.025 |
| | [0.017] | [0.035] | [0.016] | [0.038] | [0.021] | [0.056] | [0.060] |
| | 6035 | 791 | 5244 | . | 566 | 225 | . |

Sources: OPM CT-OVC evaluation baseline (2007) data.

Notes: (1) Standard error of the coefficient in parentheses, *** p<0.01; ** p<0.05; * p<0.1. Number of observations over which the estimate is generated is given below standard error. (2) Estimates are weighted and standard errors are clustered at the sub-location level. (3) Panelled households only. OVC households at baseline.

Table F.38 Individual-level panel changes: Follow-up characteristic of children aged 0–17 years joining the sample

| | Total | Total Non-joiners | | | Joiners | | |
|--------------------------|--------------------------|---------------------------|---------------------------|----------------------|--------------------------|--------------------------|-------------------|
| | | Joiners | Non-joiners | Difference | A | B | Difference |
| Age | 9.794 [0.138] 5970 | 6.086 [0.284] 1144 | 10.72 [0.109] 4826 | -4.634*** [0.304] | 6.521 [0.422] 755 | 5.869 [0.336] 389 | 0.652 [0.539] |
| Male | 0.528 [0.008] 5970 | 0.482 [0.027] 1144 | 0.539 [0.009] 4826 | -0.057* [0.028] | 0.483 [0.018] 755 | 0.482 [0.039] 389 | 0.001 [0.043] |
| Father is dead | 0.648 [0.019] 5970 | 0.461 [0.038] 1144 | 0.695 [0.018] 4826 | -0.234*** [0.042] | 0.518 [0.039] 755 | 0.433 [0.053] 389 | 0.084 [0.066] |
| Mother is dead | 0.392 [0.029] 5970 | 0.286 [0.036] 1144 | 0.419 [0.031] 4826 | -0.132*** [0.047] | 0.354 [0.042] 755 | 0.253 [0.048] 389 | 0.101 [0.064] |
| Chronically ill | 0.06 [0.004] 5970 | 0.046 [0.010] 1144 | 0.064 [0.005] 4826 | -0.019 [0.011] | 0.041 [0.009] 755 | 0.048 [0.014] 389 | -0.007 [0.017] |
| Age of the carer | 44.07 [1.298] 5970 | 41.251 [1.998] 1144 | 44.773 [1.242] 4826 | -3.523** [2.353] | 46.036 [2.361] 755 | 38.872 [2.719] 389 | 7.164* [3.601] |
| Gender of the carer | 0.051 [0.006] 5970 | 0.046 [0.014] 1144 | 0.052 [0.006] 4826 | -0.006 [0.015] | 0.034 [0.007] 755 | 0.051 [0.019] 389 | -0.017 [0.021] |
| Mum is carer | 0.519 [0.034] 5970 | 0.514 [0.055] 1144 | 0.52 [0.033] 4826 | -0.006 [0.064] | 0.418 [0.061] 755 | 0.561 [0.074] 389 | -0.143 [0.096] |
| Carer is chronically ill | 0.149 [0.014] 5970 | 0.137 [0.017] 1144 | 0.152 [0.015] 4826 | -0.015 [0.023] | 0.176 [0.018] 755 | 0.118 [0.024] 389 | 0.058* [0.030] |

Sources: OPM CT-OVC evaluation follow-up (2009) data.

Notes: (1) Standard error of the coefficient in parentheses, *** p<0.01; ** p<0.05; * p<0.1. Number of observations over which the estimate is generated is given below standard error. (2) Estimates are weighted and standard errors are clustered at the sub-location level. (3) Panelled households only. OVC households at baseline.

Table F.39 Cross-sectional models accounting for individual mobility: Selected outcomes

| Indicator | Cross section Difference-in-differences | | Cross section Difference-in-differences– (excluding joiners and movers) | |
|--|---|---------------------------|---|---------------------------|
| | A vs. B | A vs. B comparable set | A vs. B | A vs. B comparable set |
| Proportion of children aged 14-17 years ever attended school | 0.0513** (0.0131) 3090 | 0.0264 (0.117) 1714 | 0.0563** (0.0134) 2693 | 0.0283 (0.117) 1497 |
| Proportion of children aged 6-7 years currently enrolled in basic school | 0.116* (0.0970) 1150 | 0.141 (0.115) 581 | 0.131* (0.0938) 985 | 0.173 (0.117) 489 |
| Proportion of children aged 14-17 years | 0.0719** | 0.102*** | 0.0468 | 0.0829** |

Kenya CT-OVC Programme – Operational and Impact Evaluation: 2007–2009

| | | | | |
|--|-----------|------------|-----------|----------|
| currently enrolled in secondary school | (0.0270) | (0.000563) | (0.142) | (0.0142) |
| | 3089 | 1714 | 2692 | 1497 |
| Proportion of males aged 14-17 years currently enrolled in secondary school | 0.0980** | 0.116** | 0.0688 | 0.107* |
| | (0.0346) | (0.0227) | (0.181) | (0.0643) |
| | 1767 | 991 | 1600 | 904 |
| Proportion of children aged 14-15 years currently enrolled in secondary school | 0.0791** | 0.118* | 0.0721* | 0.114* |
| | (0.0275) | (0.0521) | (0.0535) | (0.0825) |
| | 1797 | 972 | 1582 | 865 |
| Proportion of children aged 16-17 years currently enrolled in secondary school | 0.101 | 0.125** | 0.0575 | 0.108 |
| | (0.120) | (0.0393) | (0.417) | (0.146) |
| | 1292 | 742 | 1110 | 632 |
| Mean number of days of school missed in the most recent two months for children aged 6-13 years who are enrolled in school | 0.429** | 0.231 | 0.436** | 0.634* |
| | (0.0281) | (0.373) | (0.0475) | (0.0766) |
| | 5129 | 5129 | 4528 | 2382 |
| Mean number of days of school missed in the most recent two months for females aged 6-13 years who are enrolled in school | 0.939* | 0.665* | 1.046** | 1.569** |
| | (0.0545) | (0.0990) | (0.0422) | (0.0388) |
| | 2403 | 2403 | 2098 | 1135 |
| Proportion of children aged 6-13 years doing paid work | -0.0344** | -0.0237* | -0.0353** | -0.0264 |
| | (0.0240) | (0.0668) | (0.0339) | (0.168) |
| | 6125 | 6125 | 5406 | 2778 |
| Mean number of hours worked per week for children (aged 6-13) doing unpaid work | -3.072** | -2.502** | -2.799* | -1.940 |
| | (0.0242) | (0.0426) | (0.0622) | (0.313) |
| | 4568 | 4568 | 4009 | 2106 |
| Mean number of hours worked per week for children (aged 14-17) doing unpaid work | -6.392** | -4.883** | -6.079** | -4.894 |
| | (0.0172) | (0.0378) | (0.0157) | (0.111) |
| | 2528 | 2528 | 2188 | 1225 |
| Proportion of children aged 0-5 years fully vaccinated | 0.0571 | 0.181* | 0.0698 | 0.0696 |
| | (0.613) | (0.0821) | (0.567) | (0.601) |
| | 920 | 469 | 626 | 320 |
| Proportion of children aged under 5 years who have been weighed by a health worker within the preceding six months | -0.00512 | -0.0215 | -0.00482 | 0.0732 |
| | (0.930) | (0.857) | (0.943) | (0.501) |
| | 1610 | 796 | 1129 | 563 |
| Proportion of children aged under 5 years who have been ill with cough | -0.138* | -0.0947 | -0.0855 | 0.0131 |
| | (0.0708) | (0.404) | (0.230) | (0.923) |
| | 1969 | 982 | 1280 | 643 |
| Z-score height for age (aged under 60 months) | 0.0765 | 0.130 | 0.264 | 0.624* |
| | (0.714) | (0.635) | (0.161) | (0.0602) |
| | 1406 | 680 | 946 | 454 |
| Proportion of children aged under 60 months (<2sd) stunted | -0.0463 | -0.0168 | -0.110** | -0.145** |
| | (0.315) | (0.817) | (0.0116) | (0.0467) |
| | 1392 | 673 | 936 | 449 |
| z-score weight for age (aged under 60 months) | -0.192 | -0.366** | 0.0383 | -0.317* |
| | (0.177) | (0.0481) | (0.777) | (0.0643) |
| | 1449 | 705 | 980 | 473 |
| Proportion of children aged under 60 months (<2sd) underweight | -0.00622 | 0.0805 | -0.0386 | 0.0915 |
| | (0.901) | (0.122) | (0.576) | (0.369) |
| | 1435 | 698 | 970 | 468 |
| z-score height for weight (aged under 60 months) | -0.0243 | -0.330 | 0.0982 | -0.536** |
| | (0.863) | (0.106) | (0.552) | (0.0139) |
| | 1398 | 679 | 953 | 460 |
| Proportion of children aged under 60 months (<2sd) wasted | 0.0595 | 0.0982** | 0.0540 | 0.135** |
| | (0.105) | (0.0406) | (0.215) | (0.0171) |
| | 1384 | 672 | 943 | 455 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (3) Estimates are weighted and standard errors are clustered at the sub-location level. (4) Number of observations over which the estimate is generated is given below p-values.

Table F.40 Comparison of alternative options to account for clustered standard errors: Selected outcomes

| Indicator | Cross section Difference-in-differences Ex-post cluster correction (unweighted) | | Cross section Difference-in-differences Group random effect (unweighted) | |
|--|--|--------------------------------|---|---------------------------------|
| | A vs B | A vs B comparable set | A vs B | A vs B comparable set |
| Proportion of children aged 14-17 years ever attended school | 0.0611** (0.0296) 3090 | 0.0347 (0.158) 1714 | 0.0616*** (9.19e-06) 3090 | 0.0371** (0.0275) 1714 |
| Proportion of children aged 6-7 years currently enrolled in basic school | 0.0547 (0.447) 1150 | 0.122 (0.143) 581 | 0.0547 (0.305) 1150 | 0.123* (0.0950) 581 |
| Proportion of children aged 14-17 years currently enrolled in secondary school | 0.0876*** (0.00300) 3089 | 0.119*** (6.23e-05) 1714 | 0.0863*** (0.00155) 3089 | 0.119*** (0.000759) 1714 |
| Proportion of males aged 14-17 years currently enrolled in secondary school | 0.0832** (0.0270) 1767 | 0.0979** (0.0255) 991 | 0.0835** (0.0218) 1767 | 0.0971** (0.0349) 991 |
| Proportion of children aged 16-17 years currently enrolled in secondary school | 0.110** (0.0329) 1292 | 0.157** (0.0137) 742 | 0.109** (0.0273) 1292 | 0.151** (0.0196) 742 |
| Mean number of days of school missed in the most recent two months for children aged 6-13 years who are enrolled in school | 0.231 (0.373) 5129 | 0.403 (0.307) 2707 | 0.221 (0.288) 5129 | 0.409 (0.184) 2707 |
| Mean number of days of school missed in the most recent two months for females aged 6-13 years who are enrolled in school | 0.665* (0.0990) 2403 | 1.278* (0.0570) 1302 | 0.654** (0.0306) 2403 | 1.306*** (0.00563) 1302 |
| Proportion of children aged 6-13 years doing paid work | -0.0237* (0.0668) 6125 | -0.0163 (0.310) 3160 | -0.0237*** (0.00594) 6125 | -0.0156 (0.190) 3160 |
| Mean number of hours worked per week for children (aged 6-13) doing unpaid work | -2.502** (0.0426) 4568 | -2.815* (0.0577) 2400 | -2.592*** (2.60e-05) 4568 | -2.818*** (0.000324) 2400 |
| Mean number of hours worked per week for children (aged 14-17) doing unpaid work | -4.883** (0.0378) 2528 | -3.909 (0.130) 1421 | -4.972*** (2.14e-06) 2528 | -4.053*** (0.00272) 1421 |
| Proportion of children aged 0-5 years fully vaccinated | 0.0204 (0.806) 920 | 0.138 (0.239) 469 | 0.0222 (0.722) 920 | 0.147* (0.0995) 469 |
| Proportion of children aged under 5 years who have been ill with a cough | -0.129* (0.0616) 2873 | -0.167 (0.116) 1433 | -0.128*** (0.000846) 2873 | -0.170*** (0.00199) 1433 |
| z-score weight for age (aged under 60 months) | -0.194 (0.184) 1449 | -0.318* (0.0684) 705 | -0.194 (0.207) 1449 | -0.317 (0.140) 705 |
| Proportion of children aged under 60 months (<2sd) wasted | 0.0623 (0.111) 1384 | 0.0809 (0.106) 672 | 0.0621** (0.0339) 1384 | 0.0804* (0.0592) 672 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (4) Number of observations over which the estimate is generated is given below p-values.

Table F.41 Comparison of weighted and unweighted cross-sectional models: Selected outcomes

| Indicator | Cross section Difference-in-differences– (weighted) | | Cross section Difference-in-differences– (unweighted) | |
|--|---|--------------------------------|---|--------------------------------|
| | A vs B | A vs B comparable set | A vs B | A vs B comparable set |
| Proportion of children aged 14-17 years ever attended school | 0.0513** (0.0131) 3090 | 0.0611** (0.0296) 3090 | 0.0264 (0.117) 1714 | 0.0347 (0.158) 1714 |
| Proportion of children aged 6-7 years currently enrolled in basic school | 0.116* (0.0970) 1150 | 0.0547 (0.447) 1150 | 0.141 (0.115) 581 | 0.122 (0.143) 581 |
| Proportion of children aged 14-17 years currently enrolled in secondary school | 0.0724** (0.0258) 3089 | 0.0898*** (0.00267) 3089 | 0.0988*** (0.000595) 1714 | 0.116*** (5.62e-05) 1714 |
| Proportion of males aged 14-17 years currently enrolled in secondary school | 0.0719** (0.0270) 3089 | 0.0876*** (0.00300) 3089 | 0.102*** (0.000563) 1714 | 0.119*** (6.23e-05) 1714 |
| Proportion of children aged 14-15 years currently enrolled in secondary school | 0.0791** (0.0275) 1797 | 0.0798** (0.0261) 1797 | 0.118* (0.0521) 972 | 0.103** (0.0128) 972 |
| Proportion of children aged 16-17 years currently enrolled in secondary school | 0.101 (0.120) 1292 | 0.110** (0.0329) 1292 | 0.125** (0.0393) 742 | 0.157** (0.0137) 742 |
| Mean number of days of school missed in the most recent two months for children aged 6-13 years who are enrolled in school | 0.429** (0.0281) 5129 | 0.231 (0.373) 5129 | 0.728* (0.0549) 2707 | 0.403 (0.307) 2707 |
| Mean number of days of school missed in the most recent two months for females aged 6-13 years who are enrolled in school | 0.939* (0.0545) 2403 | 0.665* (0.0990) 2403 | 1.622** (0.0274) 1302 | 1.278* (0.0570) 1302 |
| Proportion of children aged 6-13 years doing paid work | -0.0344** (0.0240) 6125 | -0.0237* (0.0668) 6125 | -0.0239 (0.181) 3160 | -0.0163 (0.310) 3160 |
| Mean number of hours worked per week for children (aged 6-13) doing unpaid work | -3.072** (0.0242) 4568 | -2.502** (0.0426) 4568 | -2.896 (0.109) 2400 | -2.815* (0.0577) 2400 |
| Mean number of hours worked per week for children (aged 14-17) doing unpaid work | -6.392** (0.0172) 2528 | -4.883** (0.0378) 2528 | -6.145* (0.0629) 1421 | -3.909 (0.130) 1421 |
| Proportion of children aged 0–5 years fully vaccinated | 0.0571 (0.613) 920 | 0.181* (0.0821) 469 | 0.0204 (0.806) 920 | 0.138 (0.239) 469 |
| Proportion of children aged under 5 years who have been ill with a cough | -0.138* (0.0708) 1969 | -0.0947 (0.404) 982 | -0.143* (0.0534) 1969 | -0.129 (0.245) 982 |
| Z-score weight for age (aged under 60 months) | -0.192 (0.177) 1449 | -0.366** (0.0481) 705 | -0.194 (0.184) 1449 | -0.318* (0.0684) 705 |
| Proportion of children aged under 60 months (<2sd) wasted | 0.0595 (0.105) 1384 | 0.0982** (0.0406) 672 | 0.0623 (0.111) 1384 | 0.0809 (0.106) 672 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) Panelled households only. OVC households at baseline. (2) *** p<0.01; ** p<0.05; * p<0.1, p-values of the coefficient in parentheses (). (4) Number of observations over which the estimate is generated is given below p-values.

Table F.42 Conditions: Baseline differences in household and community level control variables (As only)

| | Total | With conditions | Without conditions | Difference |
|---|-------------------------------|------------------------------|-----------------------------|---------------------------|
| Household size | 5.677 [0.342] 1247 | 5.418 [0.241] 690 | 5.929 [0.609] 557 | 0.511 [0.655] . |
| Number of females in the household | 2.877 [0.173] 1247 | 2.781 [0.115] 690 | 2.97 [0.318] 557 | 0.189 [0.338] . |
| Number of children in the household | 3.39 [0.206] 1247 | 3.242 [0.148] 690 | 3.535 [0.366] 557 | 0.293 [0.395] . |
| Proportion of households with no adults (aged 20+ years) | 0.003 [0.001] 1247 | 0.005 [0.002] 690 | 0 [0.000] 557 | -0.005** [0.002] . |
| Number of disabled household members | 0.24 [0.017] 1247 | 0.267 [0.027] 690 | 0.213 [0.017] 557 | -0.055 [0.031] . |
| Number of orphans in the household | 2.572 [0.068] 1247 | 2.62 [0.087] 690 | 2.524 [0.103] 557 | -0.096 [0.135] . |
| Number of ill carers in the household | 0.483 [0.057] 1246 | 0.533 [0.080] 690 | 0.434 [0.078] 556 | -0.099 [0.111] . |
| Female head | 0.656 [0.012] 1247 | 0.664 [0.015] 690 | 0.648 [0.017] 557 | -0.016 [0.023] . |
| Age of the head | 57.728 [1.494] 1247 | 56.534 [1.749] 690 | 58.891 [2.429] 557 | 2.357 [2.993] . |
| Age of the head squared | 3540.524 [166.207] 1247 | 3418.134 [168.970] 690 | 3659.69 [284.993] 557 | 241.556 [331.319] . |
| Maximum education of adult members: none ¹ | 0.337 [0.042] 1246 | 0.363 [0.075] 689 | 0.313 [0.039] 557 | -0.05 [0.085] . |
| Maximum education of adult members: basic level incomplete ¹ | 0.235 [0.019] 1246 | 0.232 [0.029] 689 | 0.238 [0.025] 557 | 0.006 [0.038] . |
| Maximum education of adult members: Std7 ¹ | 0.086 [0.010] 1246 | 0.075 [0.014] 689 | 0.096 [0.013] 557 | 0.02 [0.019] . |
| Maximum education of adult members: Std8 ¹ | 0.164 [0.022] 1246 | 0.152 [0.037] 689 | 0.176 [0.023] 557 | 0.025 [0.043] . |
| Maximum education of adult members: Form 1–3 ¹ | 0.069 | 0.075 | 0.063 | -0.012 |

| | [0.010] 1246 | [0.009] 689 | [0.016] 557 | [0.019] . |
|---|--------------------------|-------------------------|-------------------------|------------------------|
| Main household activity: inactive ² | 0.121 [0.035] 1247 | 0.138 [0.059] 690 | 0.104 [0.038] 557 | -0.033 [0.071] . |
| Main household activity: paid employment ² | 0.076 [0.024] 1247 | 0.058 [0.025] 690 | 0.094 [0.038] 557 | 0.035 [0.045] . |
| Main household activity: casual employment ² | 0.164 [0.038] 1247 | 0.172 [0.049] 690 | 0.156 [0.058] 557 | -0.016 [0.076] . |
| Main household activity: own business ² | 0.113 [0.031] 1247 | 0.118 [0.043] 690 | 0.107 [0.044] 557 | -0.011 [0.062] . |
| Main household activity: other ² | 0.032 [0.013] 1247 | 0.041 [0.022] 690 | 0.024 [0.012] 557 | -0.017 [0.025] . |
| Poor quality walls (mud/cow/dung/grass/sticks) | 0.799 [0.043] 1247 | 0.827 [0.031] 690 | 0.771 [0.079] 557 | -0.057 [0.084] . |
| Electric lighting | 0.057 [0.039] 1247 | 0.053 [0.053] 690 | 0.061 [0.058] 557 | 0.009 [0.078] . |
| Poor quality floor (mud/cow/dung) | 0.69 [0.067] 1247 | 0.635 [0.102] 690 | 0.744 [0.089] 557 | 0.109 [0.135] . |
| Area of farming land owned (acres) | 1.722 [0.253] 1247 | 1.489 [0.282] 690 | 1.948 [0.410] 557 | 0.459 [0.498] . |
| Owens livestock | 0.767 [0.072] 1247 | 0.818 [0.075] 690 | 0.718 [0.118] 557 | -0.099 [0.140] . |
| Number of animals (cattle) | 1.099 [0.158] 1247 | 1.262 [0.188] 690 | 0.939 [0.242] 557 | -0.323 [0.306] . |
| Number of animals (poultry) | 3.72 [0.528] 1246 | 3.451 [0.557] 690 | 3.982 [0.892] 556 | 0.531 [1.052] . |
| Household receives transfer (formal or informal) | 0.278 [0.035] 1247 | 0.335 [0.053] 690 | 0.222 [0.044] 557 | -0.113 [0.069] . |
| Owens telephone | 0.113 [0.025] 1247 | 0.122 [0.037] 690 | 0.104 [0.035] 557 | -0.017 [0.051] . |
| Owens blankets | 0.85 [0.066] 1247 | 0.884 [0.071] 690 | 0.817 [0.106] 557 | -0.067 [0.127] . |
| Owens mosquito net | 0.577 [0.037] 1247 | 0.609 [0.055] 690 | 0.546 [0.048] 557 | -0.062 [0.073] . |
| Rural | 0.799 [0.107] | 0.876 [0.124] | 0.724 [0.166] | -0.152 [0.207] |

| | | | | |
|---|------------|------------|------------|------------|
| | 1247 | 690 | 557 | . |
| Muslim religion | 0.193 | 0.132 | 0.252 | 0.121 |
| | [0.098] | [0.101] | [0.157] | [0.187] |
| | 1247 | 690 | 557 | . |
| Number of household living in the community | 1995.518 | 2088.237 | 1905.242 | -182.995 |
| | [1208.048] | [1829.757] | [1588.813] | [2423.291] |
| | 1247 | 690 | 557 | . |
| Car access to the community | 0.766 | 0.95 | 0.586 | -0.363** |
| | [0.085] | [0.048] | [0.121] | [0.130] |
| | 1247 | 690 | 557 | . |
| Community within 2km of a basic school | 0.937 | 0.941 | 0.934 | -0.007 |
| | [0.018] | [0.028] | [0.024] | [0.037] |
| | 1247 | 690 | 557 | . |
| Community within 2km of a secondary school | 0.55 | 0.589 | 0.511 | -0.078 |
| | [0.081] | [0.113] | [0.109] | [0.158] |
| | 1247 | 690 | 557 | . |
| Community within 10km of a hospital | 0.631 | 0.512 | 0.746 | 0.234 |
| | [0.086] | [0.135] | [0.101] | [0.169] |
| | 1247 | 690 | 557 | . |
| Community within 5km of a health centre | 0.444 | 0.436 | 0.451 | 0.015 |
| | [0.107] | [0.125] | [0.173] | [0.213] |
| | 1247 | 690 | 557 | . |
| Community with religious mix | 0.476 | 0.489 | 0.463 | -0.027 |
| | [0.097] | [0.143] | [0.131] | [0.194] |
| | 1247 | 690 | 557 | . |

Sources: OPM CT-OVC evaluation baseline (2007) data.

Notes: (1) The excluded dummy is: Maximum education of adult members: Form 4 or more. (2) The excluded dummy is: Main household activity: farmer. (3) Standard error of the coefficient in parentheses, *** p<0.01; ** p<0.05; * p<0.1. Number of observations over which the estimate is generated is given below standard error. (4) Estimates are weighted and standard errors are clustered at the sub-location level. (5) Panelled households only. OVC households at baseline.

Table F.43 Conditions: Baseline differences in child-level control variables (As only)

| | Total | With conditions | Without conditions | Difference |
|----------------|---------|-----------------|--------------------|------------|
| Age | 9.528 | 9.741 | 9.338 | -0.403 |
| | [0.232] | [0.331] | [0.267] | [0.425] |
| | 4139 | 2251 | 1888 | . |
| Age squared | 112.132 | 115.232 | 109.364 | -5.867 |
| | [3.581] | [5.516] | [3.763] | [6.677] |
| | 4139 | 2251 | 1888 | . |
| Gender | 0.547 | 0.536 | 0.558 | 0.022 |
| | [0.008] | [0.006] | [0.013] | [0.015] |
| | 4139 | 2251 | 1888 | . |
| Father is dead | 0.625 | 0.673 | 0.583 | -0.09 |
| | [0.040] | [0.035] | [0.059] | [0.068] |
| | 4139 | 2251 | 1888 | . |
| Mother is dead | 0.44 | 0.463 | 0.419 | -0.043 |

| | | | | |
|---------------------------|---------|---------|---------|---------|
| | [0.045] | [0.033] | [0.077] | [0.084] |
| | 4134 | 2246 | 1888 | . |
| Chronically ill | 0.03 | 0.036 | 0.025 | -0.011 |
| | [0.004] | [0.006] | [0.004] | [0.007] |
| | 4139 | 2251 | 1888 | . |
| Age of the carer | 48.732 | 48.957 | 48.532 | -0.424 |
| | [2.031] | [2.125] | [3.312] | [3.935] |
| | 4139 | 2251 | 1888 | . |
| Gender of the carer | 0.13 | 0.122 | 0.137 | 0.016 |
| | [0.009] | [0.011] | [0.014] | [0.018] |
| | 4138 | 2251 | 1887 | . |
| Mum is carer | 0.444 | 0.435 | 0.451 | 0.016 |
| | [0.048] | [0.037] | [0.083] | [0.091] |
| | 4138 | 2251 | 1887 | . |
| Carer ill chronically ill | 0.142 | 0.164 | 0.123 | -0.042 |
| | [0.019] | [0.025] | [0.025] | [0.035] |
| | 4138 | 2251 | 1887 | . |

Sources: OPM CT-OVC evaluation baseline (2007) data.

Notes: (1) Standard error of the coefficient in parentheses, *** p<0.01; ** p<0.05; * p<0.1. Number of observations over which the estimate is generated is given below standard error. (2) Estimates are weighted and standard errors are clustered at the sub-location level. (3) Panelled households only. OVC households at baseline.

Table F.44 Perceptions of Programme design: Baseline differences in household and community level control variables (As only)

| | Total | Believe there are no rules | Believe there are rules | Diff. | Believe there are no penalties | Believe there are penalties | Diff. |
|--|---------|----------------------------|-------------------------|---------|--------------------------------|-----------------------------|---------|
| Household size | 5.679 | 6.054 | 5.606 | -0.448 | 5.741 | 5.633 | -0.108 |
| | [0.342] | [0.560] | [0.305] | [0.638] | [0.511] | [0.255] | [0.571] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Number of females in the household | 2.877 | 3.017 | 2.85 | -0.167 | 2.856 | 2.897 | 0.041 |
| | [0.174] | [0.355] | [0.146] | [0.384] | [0.246] | [0.141] | [0.283] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Number of children in the household | 3.391 | 3.548 | 3.361 | -0.187 | 3.416 | 3.374 | -0.042 |
| | [0.206] | [0.303] | [0.192] | [0.359] | [0.315] | [0.152] | [0.349] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Proportion of households with no adults (aged 20+ years) | 0.003 | 0.004 | 0.003 | -0.001 | 0.004 | 0.002 | -0.002 |
| | [0.001] | [0.004] | [0.002] | [0.004] | [0.002] | [0.002] | [0.003] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Number of disabled household members | 0.24 | 0.245 | 0.239 | -0.006 | 0.242 | 0.237 | -0.005 |
| | [0.017] | [0.047] | [0.019] | [0.051] | [0.026] | [0.021] | [0.033] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Number of orphans in the household | 2.572 | 2.605 | 2.566 | -0.039 | 2.516 | 2.615 | 0.098 |
| | [0.068] | [0.122] | [0.068] | [0.140] | [0.108] | [0.072] | [0.129] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Number of ill carers in the household | 0.483 | 0.38 | 0.503 | 0.123 | 0.476 | 0.468 | -0.008 |
| | [0.057] | [0.080] | [0.061] | [0.101] | [0.064] | [0.058] | [0.086] |
| | 1245 | 228 | 1017 | . | 526 | 706 | . |

Kenya CT-OVC Programme – Operational and Impact Evaluation: 2007-2009

| | | | | | | | |
|---|-------------------------------|------------------------------|------------------------------|---------------------------|------------------------------|------------------------------|---------------------------|
| Female head | 0.656 [0.012] 1246 | 0.661 [0.030] 228 | 0.654 [0.013] 1018 | -0.007 [0.033] . | 0.687 [0.029] 527 | 0.632 [0.012] 706 | -0.055 [0.031] . |
| Age of the head | 57.727 [1.494] 1246 | 55.278 [2.885] 228 | 58.199 [1.530] 1018 | 2.921 [3.266] . | 57.924 [1.751] 527 | 57.635 [1.632] 706 | -0.289 [2.394] . |
| Age of the head squared | 3540.486 [166.301] 1246 | 3331.734 [292.142] 228 | 3580.81 [172.627] 1018 | 249.076 [339.334] . | 3575.316 [182.612] 527 | 3519.222 [186.835] 706 | -56.095 [261.255] . |
| Maximum education of adult members: none ¹ | 0.338 [0.042] 1245 | 0.533 [0.115] 227 | 0.3 [0.033] 1018 | -0.233* [0.119] . | 0.442 [0.062] 526 | 0.266 [0.029] 706 | 0.176*** [0.069] . |
| Maximum education of adult members: basic level incomplete ¹ | 0.234 [0.019] 1245 | 0.157 [0.042] 227 | 0.249 [0.018] 1018 | 0.092* [0.046] . | 0.215 [0.026] 526 | 0.247 [0.022] 706 | 0.033 [0.034] . |
| Maximum education of adult members: Std7 ¹ | 0.086 [0.010] 1245 | 0.056 [0.018] 227 | 0.091 [0.010] 1018 | 0.036* [0.021] . | 0.072 [0.014] 526 | 0.096 [0.012] 706 | 0.024 [0.018] . |
| Maximum education of adult members: Std8 ¹ | 0.164 [0.022] 1245 | 0.132 [0.039] 227 | 0.17 [0.022] 1018 | 0.039 [0.045] . | 0.138 [0.026] 526 | 0.185 [0.024] 706 | 0.047* [0.036] . |
| Maximum education of adult members: Form 1–3 ¹ | 0.069 [0.010] 1245 | 0.044 [0.022] 227 | 0.074 [0.010] 1018 | 0.03 [0.024] . | 0.058 [0.014] 526 | 0.073 [0.010] 706 | 0.015 [0.017] . |
| Main household activity: inactive ² | 0.121 [0.035] 1246 | 0.283 [0.105] 228 | 0.09 [0.023] 1018 | -0.193* [0.108] . | 0.159 [0.060] 527 | 0.094 [0.022] 706 | -0.065 [0.064] . |
| Main household activity: paid employment ² | 0.076 [0.024] 1246 | 0.085 [0.020] 228 | 0.075 [0.027] 1018 | -0.01 [0.034] . | 0.069 [0.021] 527 | 0.079 [0.029] 706 | 0.011 [0.035] . |
| Main household activity: casual employment() | 0.164 [0.038] 1246 | 0.24 [0.068] 228 | 0.149 [0.035] 1018 | -0.09 [0.076] . | 0.183 [0.043] 527 | 0.153 [0.037] 706 | -0.029 [0.057] . |
| Main household activity: own business ² | 0.113 [0.031] 1246 | 0.118 [0.040] 228 | 0.112 [0.032] 1018 | -0.006 [0.052] . | 0.12 [0.033] 527 | 0.11 [0.032] 706 | -0.011 [0.046] . |
| Main household activity: other ² | 0.032 [0.013] 1246 | 0.041 [0.019] 228 | 0.031 [0.014] 1018 | -0.011 [0.024] . | 0.03 [0.012] 527 | 0.035 [0.014] 706 | 0.005 [0.018] . |
| Poor quality walls (mud/cow/dung/grass/sticks) | 0.799 [0.043] 1246 | 0.891 [0.040] 228 | 0.781 [0.046] 1018 | 0.110*** [0.061] . | 0.833 [0.034] 527 | 0.775 [0.053] 706 | -0.058* [0.063] . |
| Electric lighting | 0.057 [0.039] 1246 | 0.059 [0.045] 228 | 0.057 [0.039] 1018 | -0.002 [0.060] . | 0.048 [0.033] 527 | 0.063 [0.043] 706 | 0.015 [0.055] . |
| Poor quality floor (mud/cow/dung) | 0.69 | 0.543 | 0.719 | 0.176 | 0.669 | 0.71 | 0.041 |

Kenya CT-OVC Programme – Operational and Impact Evaluation: 2007–2009

| | | | | | | | |
|--|---------|---------|---------|----------|---------|---------|----------|
| | [0.067] | [0.153] | [0.060] | [0.164] | [0.093] | [0.063] | [0.112] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Area of farming land owned (acres) | 1.722 | 1.321 | 1.8 | 0.479 | 1.656 | 1.772 | 0.116 |
| | [0.253] | [0.464] | [0.235] | [0.520] | [0.292] | [0.253] | [0.386] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Owns livestock | 0.767 | 0.789 | 0.763 | -0.026 | 0.804 | 0.744 | -0.06 |
| | [0.072] | [0.093] | [0.072] | [0.118] | [0.066] | [0.080] | [0.104] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Number of animals (cattle) | 1.099 | 0.987 | 1.121 | 0.134 | 1.038 | 1.153 | 0.115 |
| | [0.158] | [0.333] | [0.157] | [0.368] | [0.181] | [0.189] | [0.261] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Number of animals (poultry) | 3.717 | 3.744 | 3.711 | -0.033 | 3.698 | 3.753 | 0.054 |
| | [0.528] | [1.319] | [0.455] | [1.396] | [0.706] | [0.497] | [0.864] |
| | 1245 | 228 | 1017 | . | 526 | 706 | . |
| Household receives transfer (formal or informal) | 0.278 | 0.394 | 0.255 | -0.138 | 0.312 | 0.25 | -0.062 |
| | [0.035] | [0.097] | [0.029] | [0.101] | [0.054] | [0.032] | [0.063] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Owns telephone | 0.113 | 0.092 | 0.117 | 0.025 | 0.082 | 0.134 | 0.052** |
| | [0.025] | [0.038] | [0.027] | [0.047] | [0.025] | [0.027] | [0.037] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Owns blankets | 0.85 | 0.614 | 0.895 | 0.281** | 0.773 | 0.903 | 0.130** |
| | [0.066] | [0.116] | [0.057] | [0.129] | [0.087] | [0.054] | [0.103] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Owns mosquito net | 0.577 | 0.672 | 0.558 | -0.114 | 0.569 | 0.579 | 0.01 |
| | [0.037] | [0.074] | [0.040] | [0.084] | [0.052] | [0.042] | [0.067] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Rural | 0.799 | 0.76 | 0.806 | 0.046 | 0.808 | 0.792 | -0.016 |
| | [0.107] | [0.133] | [0.105] | [0.170] | [0.106] | [0.111] | [0.154] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Muslim religion | 0.193 | 0.524 | 0.129 | -0.395** | 0.288 | 0.128 | -0.161* |
| | [0.098] | [0.166] | [0.083] | [0.185] | [0.128] | [0.081] | [0.152] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Number of household living in the community | 1997 | 2331 | 1932 | -399 | 1737 | 2170 | 433 |
| | [1209] | [1367] | [1194] | [1815] | [1051] | [1321] | [1689] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Car access to the community | 0.766 | 0.866 | 0.746 | -0.119 | 0.792 | 0.745 | -0.047 |
| | [0.085] | [0.070] | [0.093] | [0.117] | [0.078] | [0.096] | [0.124] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Community within 2km of a basic school | 0.937 | 0.9 | 0.944 | 0.045 | 0.894 | 0.967 | 0.073*** |
| | [0.018] | [0.037] | [0.017] | [0.041] | [0.029] | [0.011] | [0.031] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Community within 2km of a secondary school | 0.549 | 0.414 | 0.576 | 0.162 | 0.5 | 0.582 | 0.082 |
| | [0.081] | [0.149] | [0.074] | [0.166] | [0.100] | [0.075] | [0.125] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Community within 10km of a hospital | 0.631 | 0.408 | 0.674 | 0.266* | 0.543 | 0.693 | 0.150** |
| | [0.086] | [0.148] | [0.081] | [0.169] | [0.096] | [0.087] | [0.130] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Community within 5km of a health centre | 0.443 | 0.339 | 0.463 | 0.124 | 0.377 | 0.49 | 0.113* |
| | [0.107] | [0.132] | [0.113] | [0.174] | [0.099] | [0.115] | [0.152] |

| | | | | | | | |
|------------------------------|---------|---------|---------|---------|---------|---------|---------|
| | 1246 | 228 | 1018 | . | 527 | 706 | . |
| Community with religious mix | 0.476 | 0.361 | 0.498 | 0.137 | 0.418 | 0.514 | 0.096 |
| | [0.097] | [0.128] | [0.100] | [0.162] | [0.097] | [0.103] | [0.142] |
| | 1246 | 228 | 1018 | . | 527 | 706 | . |

Sources: OPM CT-OVC evaluation baseline (2007) data.

Notes: (1) The excluded dummy is: Maximum education of adult members: Form 4 or more. (2) The excluded dummy is: Main household activity: farmer. (3) Standard error of the coefficient in parentheses, *** p<0.01; ** p<0.05; * p<0.1. Number of observations over which the estimate is generated is given below standard error. (4) Estimates are weighted and standard errors are clustered at the sub-location level. (5) Panelled households only. OVC households at baseline.

Table F.45 Conditions and perceptions of Programme design: Baseline differences in child-level outcomes (As only)

| | Total | No | | | Belief | | | Belief | | |
|--|-------------------------|-------------------------|-------------------------|------------------------|-------------------------|-------------------------|------------------------|-------------------------|-------------------------|------------------------|
| | | Con- ditions | Con- ditions | Diff. | No rules | Rules | Diff. | No pen- alties | Pen- alties | Diff. |
| Proportion of children aged under 60 months (<2sd) stunted | 0.413 [0.067] 445 | 0.352 [0.026] 193 | 0.445 [0.094] 252 | 0.094 [0.097] . | 0.465 [0.096] 88 | 0.4 [0.068] 357 | -0.065 [0.118] . | 0.438 [0.052] 175 | 0.396 [0.078] 269 | -0.043 [0.094] . |
| Proportion of children aged under 60 months (<2sd) underweight | 0.205 [0.033] 459 | 0.177 [0.042] 198 | 0.22 [0.044] 261 | 0.043 [0.060] . | 0.235 [0.046] 89 | 0.198 [0.037] 370 | -0.037 [0.059] . | 0.194 [0.024] 180 | 0.213 [0.047] 278 | 0.019 [0.053] . |
| Proportion of children aged under 60 months (<2sd) wasted | 0.065 [0.015] 445 | 0.076 [0.030] 192 | 0.059 [0.014] 253 | -0.017 [0.033] . | 0.081 [0.029] 87 | 0.06 [0.016] 358 | -0.021 [0.033] . | 0.087 [0.024] 173 | 0.05 [0.017] 271 | -0.036 [0.029] . |
| Proportion of children aged 0-5 years fully vaccinated | 0.725 [0.087] 253 | 0.533 [0.109] 123 | 0.835 [0.074] 130 | 0.302* [0.132] . | 0.548 [0.157] 74 | 0.785 [0.070] 179 | 0.237* [0.172] . | 0.683 [0.113] 124 | 0.766 [0.078] 128 | 0.083 [0.137] . |
| Proportion of children aged 1-3 years fully vaccinated | 0.767 [0.088] 221 | 0.584 [0.117] 103 | 0.866 [0.079] 118 | 0.282* [0.141] . | 0.628 [0.172] 56 | 0.806 [0.075] 165 | 0.178 [0.188] . | 0.757 [0.116] 101 | 0.779 [0.081] 119 | 0.021 [0.141] . |
| Proportion of children aged under 5 years who have been ill with a fever or cough or diarrhoea | 0.61 [0.047] 649 | 0.622 [0.084] 325 | 0.601 [0.053] 324 | -0.021 [0.099] . | 0.579 [0.088] 163 | 0.619 [0.051] 486 | 0.039 [0.102] . | 0.574 [0.050] 283 | 0.634 [0.052] 364 | 0.06 [0.072] . |
| Proportion of children aged under 5 years who have been ill with fever | 0.46 [0.049] 767 | 0.465 [0.076] 393 | 0.457 [0.064] 374 | -0.008 [0.099] . | 0.4 [0.062] 186 | 0.477 [0.055] 581 | 0.078 [0.083] . | 0.419 [0.048] 333 | 0.489 [0.052] 432 | 0.069* [0.071] . |
| Proportion of children aged under 5 years who have been ill with a cough | 0.499 [0.042] 766 | 0.507 [0.073] 392 | 0.493 [0.049] 374 | -0.013 [0.088] . | 0.483 [0.089] 185 | 0.503 [0.047] 581 | 0.021 [0.101] . | 0.479 [0.046] 332 | 0.512 [0.048] 432 | 0.033 [0.067] . |

| | | | | | | | | | | |
|--|--------------------------|--------------------------|--------------------------|------------------------|---------------------------|--------------------------|--------------------------|--------------------------|--------------------------|------------------------|
| Proportion of children aged under 5 years who have been ill with diarrhoea | 0.187 [0.021] 766 | 0.208 [0.033] 391 | 0.172 [0.027] 375 | -0.036 [0.043] . | 0.215 [0.043] 186 | 0.179 [0.021] 580 | -0.036 [0.048] . | 0.186 [0.033] 333 | 0.187 [0.022] 432 | 0.001 [0.040] . |
| Proportion of children aged 1–3 years with a health card | 0.56 [0.070] 356 | 0.433 [0.101] 164 | 0.629 [0.073] 192 | 0.196 [0.125] . | 0.522 [0.147] 83 | 0.57 [0.065] 273 | 0.048 [0.161] . | 0.534 [0.088] 144 | 0.578 [0.070] 211 | 0.043 [0.113] . |
| Proportion of children aged under 5 years weighed by a health worker within the last six months | 0.304 [0.053] 523 | 0.214 [0.027] 256 | 0.361 [0.068] 267 | 0.147* [0.073] . | 0.249 [0.063] 123 | 0.319 [0.062] 400 | 0.069 [0.088] . | 0.269 [0.032] 220 | 0.329 [0.074] 302 | 0.059 [0.081] . |
| Proportion of children aged 6-13 years ever attended school | 0.888 [0.026] 2250 | 0.876 [0.045] 1225 | 0.9 [0.030] 1025 | 0.022 [0.060] . | 0.733 [0.060] 406 | 0.916 [0.017] 1843 | 0.184*** [0.063] . | 0.851 [0.043] 944 | 0.912 [0.017] 1276 | 0.061 [0.046] . |
| Proportion of children aged 14-17 years ever attended school | 0.866 [0.024] 3143 | 0.858 [0.043] 1720 | 0.874 [0.025] 1423 | -0.011 [0.040] . | 0.72 [0.057] 566 | 0.894 [0.016] 2575 | 0.174*** [0.059] . | 0.835 [0.040] 1317 | 0.887 [0.015] 1783 | 0.052 [0.043] . |
| Proportion of children aged 6-13 years currently enrolled in basic school | 0.86 [0.025] 2245 | 0.843 [0.043] 1221 | 0.876 [0.028] 1024 | 0.027 [0.058] . | 0.71 [0.056] 406 | 0.887 [0.016] 1838 | 0.178*** [0.058] . | 0.827 [0.041] 943 | 0.882 [0.016] 1272 | 0.055 [0.044] . |
| Proportion of children aged 14-17 years currently enrolled in secondary school | 0.139 [0.026] 898 | 0.148 [0.039] 499 | 0.13 [0.033] 399 | -0.008 [0.026] . | 0.09 [0.021] 160 | 0.149 [0.029] 737 | 0.059 [0.036] . | 0.122 [0.027] 374 | 0.15 [0.028] 511 | 0.028 [0.039] . |
| Mean number of days of school missed in the most recent two months, children aged 6-13 years in basic school | 1.186 [0.104] 1937 | 1.238 [0.157] 1021 | 1.138 [0.129] 916 | -0.082 [0.202] . | 1.064 [0.303] 279 | 1.204 [0.094] 1657 | 0.139 [0.317] . | 1.193 [0.204] 760 | 1.188 [0.095] 1148 | -0.006 [0.225] . |
| Mean number of days of school missed in the most recent two months, children aged 14-17 in secondary school | 1.613 [0.308] 738 | 1.869 [0.405] 406 | 1.37 [0.408] 332 | -0.415 [0.508] . | 1.479 [0.557] 105 | 1.637 [0.287] 632 | 0.157 [0.627] . | 1.628 [0.410] 286 | 1.619 [0.309] 441 | -0.009 [0.514] . |
| Proportion of children aged 6-13 years doing paid work | 0.054 [0.013] 2288 | 0.044 [0.017] 1243 | 0.063 [0.019] 1045 | 0.018 [0.022] . | 0.065 [0.033] [412] | 0.052 [0.013] 1875 | -0.013 [0.035] . | 0.075 [0.021] 961 | 0.039 [0.012] 1297 | -0.036 [0.024] . |
| Proportion of children | 0.124 | 0.139 | 0.109 | -0.014 | 0.173 | 0.114 | -0.059 | 0.151 | 0.106 | -0.045 |

| | | | | | | | | | | |
|---|---------------------------|--------------------------|--------------------------|-----------------------|--------------------------|---------------------------|-------------------------|--------------------------|--------------------------|------------------------|
| aged 14-17 years doing paid work | [0.033] 899 | [0.063] 500 | [0.017] 399 | [0.059] . | [0.048] [160] | [0.034] 738 | [0.059] . | [0.039] 374 | [0.032] 512 | [0.050] . |
| Proportion of children aged 6-13 years doing unpaid work | 0.806 [0.043] 2068 | 0.775 [0.079] 1193 | 0.838 [0.034] 875 | 0.051 [0.084] . | 0.698 [0.060] 379 | 0.826 [0.042] 1688 | 0.128** [0.073] . | 0.784 [0.050] 892 | 0.823 [0.042] 1150 | 0.039 [0.066] . |
| Proportion of children aged 14-17 years doing unpaid work | 0.889 [0.044] 806 | 0.853 [0.078] 486 | 0.93 [0.034] 320 | 0.089 [0.089] . | 0.897 [0.048] 139 | 0.888 [0.046] 666 | -0.01 [0.067] . | 0.881 [0.054] 344 | 0.896 [0.043] 451 | 0.015 [0.069] . |
| Mean number of hours worked per week for children (aged 6-13) doing unpaid work | 16.471 [1.273] 1627 | 15.32 [1.015] 912 | 17.574 [2.136] 715 | 2.95 [2.478] . | 16.697 [0.977] 253 | 16.437 [1.396] 1374 | -0.26 [1.704] . | 16.688 [1.061] 671 | 16.245 [1.718] 935 | -0.443 [2.019] . |
| Mean number of hours worked per week for children (aged 14-17) doing unpaid work | 22.229 [1.812] 711 | 20.434 [1.557] 418 | 24.081 [2.864] 293 | 2.049 [2.971] . | 24.197 [2.703] 121 | 21.867 [1.885] 589 | -2.33 [3.295] . | 22.597 [1.743] 299 | 21.922 [2.112] 403 | -0.676 [2.738] . |

Sources: OPM CT-OVC evaluation baseline (2007) data.

Notes: (1) Standard error of the coefficient in parentheses, *** p<0.01; ** p<0.05; * p<0.1. Number of observations over which the estimate is generated is given below standard error. (2) Estimates are weighted and standard errors are clustered at the sub-location level. (3) Panelled households only. OVC households at baseline.

Table F.46 Impact of conditions of health and nutrition indicators

| Indicator | Locations with conditions | | Believe there are rules related to health | | Believe there are penalties | |
|--|---------------------------------|----------------------------------|---|----------------------------------|-----------------------------|----------------------------------|
| | Cross section Diff.-in-diffs | Comparable set Diff.-in-diffs | Cross section Diff.-in-diffs | Comparable set Diff.-in-diffs | Diff.-in-diffs | Comparable set Diff.-in-diffs |
| Proportion of children aged under 60 months (<2sd) stunted | 0.00867 (0.909) 856 | 0.111** (0.0441) 340 | -0.113** (0.0458) 856 | -0.124 (0.194) 340 | -0.00108 (0.990) 849 | -0.0414 (0.729) 340 |
| Proportion of children aged under 60 months (<2sd) underweight | 0.0218 (0.779) 884 | 0.0537 (0.645) 352 | -0.0652 (0.170) 884 | -0.0592 (0.386) 352 | -0.0603* (0.0834) 877 | -0.0511 (0.400) 352 |
| Proportion of children aged under 60 months (<2sd) wasted | -0.0114 (0.740) 851 | - - - | -0.0120 (0.559) 851 | - - - | 0.0322 (0.198) 844 | - - - |
| Proportion of children aged 0–5 years fully vaccinated | -0.0186 (0.880) 605 | - - - | -0.197* (0.0934) 605 | - - - | 0.0713 (0.480) 600 | - - - |
| Proportion of children aged 1–3 years fully vaccinated | -0.174 (0.137) 404 | - - - | -0.167 (0.154) 404 | - - - | 0.166 (0.118) 400 | - - - |

| | | | | | | |
|--|----------------------------|---------------------------|----------------------------|-----------------------------|------------------------------|---------------------------|
| Proportion of children aged under 5 years who have been ill with a fever or cough or diarrhoea | -0.0108 (0.910) 1286 | -0.0392 (0.762) 567 | 0.0126 (0.894) 1286 | 0.0905 (0.549) 567 | -0.0516 (0.395) 1276 | 0.0839 (0.363) 563 |
| Proportion of children aged under 5 years who have been ill with fever | -0.0447 (0.612) 1288 | -0.0964 (0.414) 571 | -0.0338 (0.684) 1288 | -0.000315 (0.998) 571 | -0.0757* (0.0995) 1278 | -0.0243 (0.775) 567 |
| Proportion of children aged under 5 years who have been ill with a cough | -0.0799 (0.457) 1289 | -0.0757 (0.537) 571 | -0.0279 (0.736) 1289 | 0.0249 (0.814) 571 | -0.0266 (0.685) 1279 | 0.0451 (0.612) 567 |
| Proportion of children aged under 5 years who have been ill with diarrhoea | 0.0328 (0.636) 1276 | -0.0199 (0.743) 571 | 0.0404 (0.481) 1276 | 0.0121 (0.832) 571 | -0.00552 (0.923) 1267 | 0.0606 (0.384) 569 |
| Proportion of children aged 1–3 years with a health card | -0.0266 (0.803) 706 | - - - | -0.0775 (0.436) 706 | - - - | 0.150 (0.165) 701 | - - - |
| Proportion of children aged under 5 years who have been weighed by a health worker within the preceding six months | -0.106 (0.239) 1052 | -0.201 (0.231) 394 | -0.0251 (0.739) 1052 | 0.0326 (0.754) 394 | -0.0156 (0.829) 1044 | 0.00604 (0.953) 392 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) p-values of the coefficient in parentheses, *** p<0.01; ** p<0.05; * p<0.1. Number of observations over which the estimate is generated is given below p-values. (2) Estimates are weighted and standard errors are clustered at the sub-location level. (3) Panelled households only. OVC households at baseline.

Table F.47 Impact of conditions on education indicators

| Indicator | Locations with conditions | | Believe there are rules related to schooling | | Believe there are penalties | |
|---|---------------------------------|----------------------------------|--|----------------------------------|---------------------------------|----------------------------------|
| | Cross section Diff.-in-diffs | Comparable set Diff.-in-diffs | Cross section Diff.-in-diffs | Comparable set Diff.-in-diffs | Cross section Diff.-in-diffs | Comparable set Diff.-in-diffs |
| Proportion of children aged 6-13 ever attended school | 0.00846 (0.719) 4190 | 0.0139 (0.615) 2298 | -0.0443* (0.0914) 4188 | -0.0258 (0.305) 3470 | -0.00411 (0.816) 4139 | 0.00847 (0.608) 3084 |
| Proportion of children aged 14-17 ever attended school | -0.0223 (0.324) 2133 | -0.0188 (0.285) 1197 | -0.0316 (0.196) 2132 | 0.000855 (0.934) 1840 | -0.0133 (0.445) 2097 | -0.000611 (0.946) 1642 |
| Proportion of children aged 6-13 currently enrolled in basic school | 0.00813 (0.739) 4184 | 0.0105 (0.755) 2293 | -0.0459* (0.0678) 4182 | -0.0333 (0.207) 3465 | 0.0126 (0.513) 4133 | 0.0276 (0.145) 3080 |
| Proportion of male children aged 6-13 currently enrolled in basic | -0.0187 | 0.00484 | -0.0465 | -0.0131 | 0.00978 | 0.0573** |

Kenya CT-OVC Programme – Operational and Impact Evaluation: 2007-2009

| | | | | | | |
|---|---------|---------|---------|---------|----------|----------|
| school | (0.576) | (0.892) | (0.181) | (0.603) | (0.756) | (0.0419) |
| | 2249 | 1239 | 2247 | 1835 | 2217 | 1635 |
| Proportion of female children aged 6-13 currently enrolled in basic school | 0.0344 | 0.0129 | -0.0485 | -0.0600 | 0.0162 | -0.00585 |
| | (0.240) | (0.808) | (0.321) | (0.206) | (0.552) | (0.859) |
| | 1935 | 1054 | 1935 | 1630 | 1916 | 1445 |
| Proportion of children aged 14-17 years currently enrolled in secondary school | -0.0525 | -0.0311 | 0.0206 | 0.0201 | -0.00934 | -0.0339 |
| | (0.191) | (0.455) | (0.615) | (0.668) | (0.795) | (0.402) |
| | 2132 | 1196 | 2131 | 1840 | 2096 | 1642 |
| Proportion of male children aged 14-17 years currently enrolled in secondary school | -0.0393 | -0.0260 | 0.0284 | 0.0252 | -0.0206 | -0.0256 |
| | (0.421) | (0.641) | (0.592) | (0.698) | (0.586) | (0.532) |
| | 1240 | 698 | 1240 | 1068 | 1215 | 964 |
| Proportion of female children aged 14-17 years currently enrolled in secondary school | -0.0643 | -0.0421 | 0.00449 | 0.0150 | 0.0284 | -0.0174 |
| | (0.348) | (0.624) | (0.936) | (0.801) | (0.573) | (0.797) |
| | 892 | 498 | 891 | 772 | 881 | 678 |
| Mean number of days of school missed in the most recent two months for children aged 6-13 who are enrolled in basic school | -0.149 | -0.416 | -0.0348 | 0.0411 | -0.193 | -0.373 |
| | (0.511) | (0.321) | (0.795) | (0.811) | (0.590) | (0.363) |
| | 3575 | 2013 | 3573 | 3121 | 3527 | 2771 |
| Mean number of days of school missed in the most recent two months for children aged 13-17 who are enrolled in secondary school | 0.169 | -0.387 | 0.489 | 0.510 | 0.0846 | -0.0796 |
| | (0.762) | (0.515) | (0.352) | (0.424) | (0.834) | (0.850) |
| | 1728 | 970 | 1727 | 1557 | 1697 | 1386 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) P-values of the coefficient in parentheses, *** p<0.01; ** p<0.05; * p<0.1. Number of observations over which the estimate is generated is given below p-values. (2) Estimates are weighted and standard errors are clustered at the sub-location level. (3) Panelled households only. OVC households at baseline.

Table F.48 Impact of conditions on household expenditure

| Indicator | Locations with conditions | |
|---|----------------------------------|---|
| | Diff.-in-diffs All households | Diff.-in-diffs Household size (1–4) |
| Mean total monthly household consumption expenditure | 106.5 (0.908) 2488 | 314.3 (0.470) 1001 |
| Mean total monthly household consumption expenditure per adult equivalent | 48.90 (0.797) 2488 | 130.2 (0.269) 1001 |
| Mean monthly food consumption expenditure | 90.01 (0.875) 2485 | 110.0 (0.200) 1001 |
| Mean monthly food consumption expenditure per adult equivalent | 44.02 (0.755) 2485 | 125.5 (0.212) 999 |
| Mean monthly health expenditure (excluding AIDS drugs) | -36.06 (0.320) 2488 | -4.603 (0.865) 1001 |
| Mean monthly health expenditure per capita (excluding AIDS drugs) | -4.205 (0.490) 2488 | -0.586 (0.931) 1001 |
| Mean monthly education expenditure | 54.12 (0.522) 2488 | -38.77 (0.485) 1001 |
| Mean monthly education expenditure per child | 11.54 (0.667) 2469 | -19.01 (0.598) 983 |
| Mean monthly non-food expenditure | -14.71 (0.963) 2483 | 142.7 (0.322) 999 |
| Mean monthly non-food expenditure per adult equivalent | 22.07 (0.707) 2483 | 64.41 (0.184) 999 |

Sources: OPM CT-OVC evaluation baseline (2007) and follow-up (2009) data.

Notes: (1) P-values of the coefficient in parentheses, *** p<0.01; ** p<0.05; * p<0.1. Number of observations over which the estimate is generated is given below p-values. (2) Estimates are weighted and standard errors are clustered at the sub-location level. (3) Panelled households only. OVC households at baseline.

Annex G Costing: Outline of funding flows and assumptions

G.1 Outline of Programme timeline and financial flows

The three phases of the Programme have proceeded as follows:

Phase 1 – Pre-pilot (December 2004 to June 2007)¹¹⁹

At the end of 2004, a scheme was set up to give a monthly payment of Ksh 500 (around \$6) to 500 households in the districts of Garissa, Kwale and Nairobi. Beneficiaries were selected without specific indicators of poverty and were given limited information about the Programme. The districts themselves were selected because they received support as part of the country programmes of UNICEF and Sida who, together with some early technical assistance from the World Bank, provided most of the initial support (see World Bank, 2009).

Payments were made through the district treasury. A small staff was attached to manage the Programme with the assistance of community volunteers, but their expenses were not covered. The funds were provided initially for 12 months, for the financial year July 2005–June 2006, and a large part was paid as a lump sum in arrears rather than monthly. The following year, from July 2006 to Jun 2007, the payment was increased to Ksh 1,000 per month and was distributed to the same households.

In April 2005, the MOHA and UNICEF hosted a review workshop to identify the lessons learned from the set-up of the scheme. The DCS expanded the Programme to 10 additional districts using the government's own resources, reaching a further 2,500 households. In total, 3,000 recipient households were reached in Phase 1.

Phase 2 – Pilot and expanded Programme (July 2006 to June 2009)

While payments to the original households continued, the design of the next phase of the roll-out began in July 2006. The primary objective of this phase has been to evaluate the potential role of cash transfers as an instrument to retain OVCs within their families and communities, and to promote better nutrition and health; and school enrolment, attendance and retention, including through the imposition of conditions with penalties. Important improvements in the design of the different processes have been made, including in the targeting process and the delivery mechanism. For example, the households are now selected in a five-stage process, and the transfer to the household is paid through the Postal Corporation of Kenya (PCK), rather than the district treasury.

In Phase 2, the Programme began to be piloted in four new districts in Nyanza Province (Kisumu, Homa Bay, Migori and Suba). They were supported by UNICEF, DFID and the Government of Kenya, with technical support from donor partners. The selection of districts after the pre-pilot was based on poverty levels and HIV/AIDS prevalence. Meanwhile, the Government of Kenya expanded its own Programme to reach a total of 30 districts.

¹¹⁹ The pre-pilot phase is not covered in this costing analysis because although, some lessons were learned, the capital investment in systems that were later used by the pilot was minimal, since the Programme design changed substantially. Moreover, there is little available information on spending for the pre-pilot phase.

Payments to beneficiaries under Phase 1 ceased, and the new set of payments under Phase 2 started in July 2007. By the end of the year, some 4,700 households in the seven UNICEF/DFID-funded districts were regularly receiving payments. The amount paid to beneficiary households increased to KSh 1,500 (about \$20) per month, paid in a lump sum every two months. In the 30 government-funded districts, payments were made to 276 households each, reaching 8,280 households in total.

In early 2008, the seven pilot districts embarked on an intensive period of expansion to reach more households in the same districts. During this time, over 10,000 additional households were enrolled, such that by June 2008 there were over 15,300 recipient households. In the following financial year, 2008/09, the Government of Kenya, in turn, expanded its programme using its own resources. Its commitment has increased rapidly each financial year, from KSh 56 million in 2006/07 to KSh 579 million in 2008/09. It has extended the programme to an additional 10 districts in four provinces (Nyanza, Western, Eastern and Central). In May 2009, payments began to be made to 30,315 households.

The Government of Kenya's programme (the 'expanded programme') differs in several ways from the Programme operating in the seven UNICEF/DFID-funded districts (Table G.1). Payments to beneficiaries continue to be made through the district treasury, as in the pre-pilot, rather than through the PCK. Some delays in issuing the payments have been reported. Conditions with penalties are not yet imposed on households. Both financial and human resource capacity are said to be constrained, which limits the opportunity for Programme monitoring.

Table G.1 Differences between CT-OVC pre-pilot, pilot and expanded Programme phases

| Issue | Phase 1 (Pre-pilot) | Phase 2 | |
|-------------------------|---------------------|----------------------------|-----------------------|
| | | Pilot (UNICEF/DFID-funded) | Expanded (GOK-funded) |
| Areas | 3 districts | 7 districts | 40 districts |
| Number of beneficiaries | 500 | about 15,300 | 30,315 |
| Payment modality | District treasury | Post office | District treasury |
| Payment amount | KSh 500/month | KSh 1,500/month | KSh 1,500/month |

Source: OPM. Information comes from the World Bank's PAD (2009) and from discussions with Programme staff (30 June 2009).

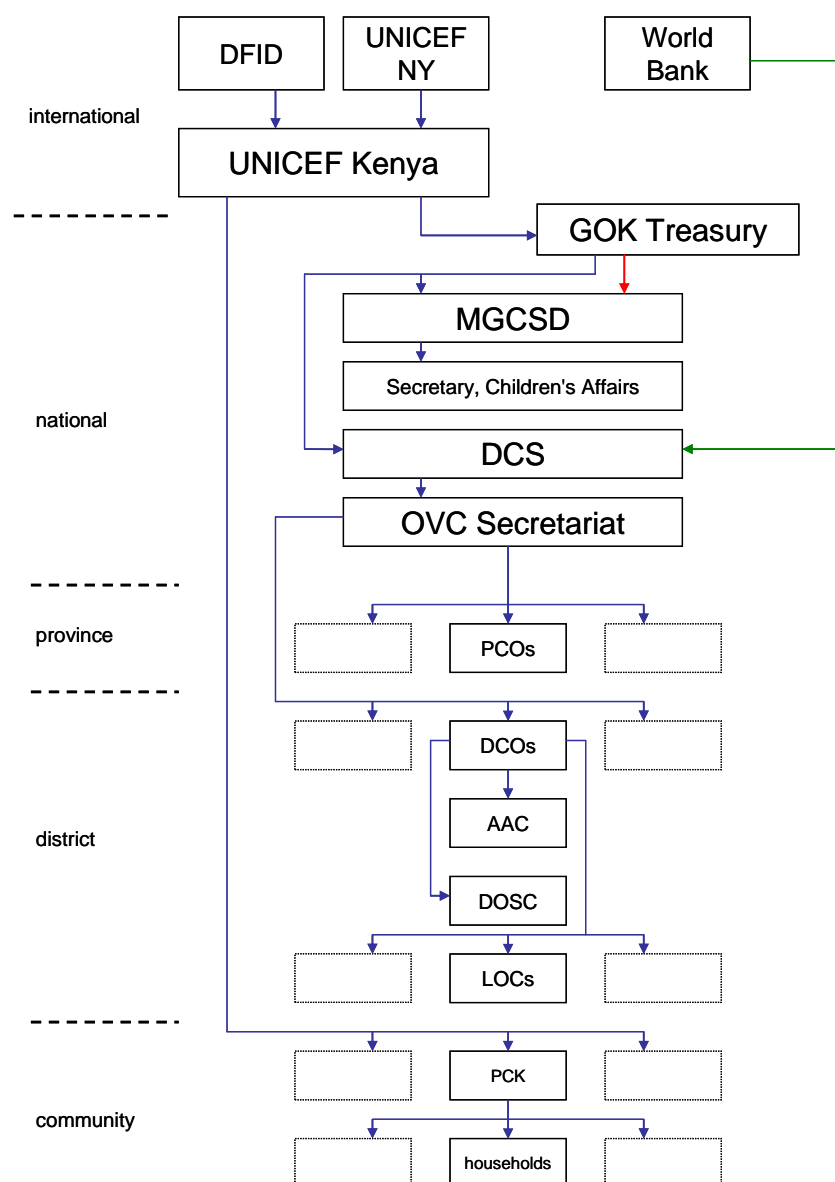
Phase 3 – 2009 onwards

The eventual target population of the Programme is 100,000 households by 2012. With an average of three OVCs per household, the CT-OVC Programme would therefore cover around 300,000 OVCs.

The Programme aims to reach this by expanding coverage and intensifying activities in the 40 expanded Programme districts, and by maintaining activities in the seven pilot districts. This is Phase 3 of the Programme. It will be achieved by the Government of Kenya, which will commit \$30 million during the period 2010 to 2013, with the additional support of the World Bank, which is providing a credit of \$50 million, together with support from DFID (\$34 million) and UNICEF (\$12 million) (World Bank, 2009).

Phase 3 is expected to harmonise some of the approaches used in the UNICEF/DFID-funded districts and the Government of Kenya-funded districts. Household targeting is to be based on OVC status and extreme poverty, which is denoted by at least three poverty dimensions, according to assessment by members of the Location OVC Committee. Payments of Ksh 1,500 per month will be made, initially through the PCK and then through a supplier selected by an open tender. Phase 3 will continue to test, as does the pilot, penalties for not meeting conditions. In 2009, expenditure has already begun to be incurred on Phase 3 of the Programme, especially by the World Bank¹²⁰.

Figure G.1 Partners and funding flows, Phase 2 pilot districts



Source: OPM. Note: This applies to the seven UNICEF/DFID-funded districts, not the Government of Kenya-funded districts.

¹²⁰ Note that, as discussed, the costing study in this report attempts to exclude Phase 3 costs from the analysis, since they do not relate to the same households as those covered by the rest of the quantitative and qualitative evaluation.

Many stakeholders incur costs in implementing the CT-OVC Programme. The flow of funds that was described in this section is represented in Figure G.1.

The Figure G.1 illustrates how UNICEF Kenya, in addition to spending funds itself, transmits payments to households through the PCK and gives some funds to the Government of Kenya's treasury as revenue expenditure. The revenue expenditure is partly spent by the ministry and its sub-divisions, the DCS and the OVC Secretariat, and partly sent to provincial children's offices and district children's offices to cover their operating costs. The district children's offices, in turn, oversee the expenditure on the CT-OVC Programme by the Area Advisory Councils, the District OVC Sub-committee (DOSC) and the LOCs.

Although funds from each donor are accounted for separately, the Government of Kenya and the development partners are in discussion about setting up a joint financing agreement to pool finances. It is intended to set this in place during Phase 3 of the Programme.

G.2 Assumptions made in the costing study

Several assumptions have necessarily been made in the costing analysis in order to determine details such as the proportion of expenditure incurred on different activities, or the amount of time spent on Phase 2 rather than Phase 3 activities in the pilot provinces and districts. A full list of notes and assumptions is available in the Excel costing spreadsheet. Some of the key comments are as follows:

- For 2006/07, there was no revenue expenditure as an agreement had not yet been drawn up between the government and the donor. All expenditure on recurrent items was spent as A-in-A during that year.
- No UNICEF expenditure has been recorded that is not captured in either A-in-A or revenue budget expenditure. The 7 per cent administration fee to UNICEF Headquarters on the DFID transfer is recorded as a cost under DFID.
- In 2007/08, communication costs were paid for by the Government of Kenya, so these costs show as zero in the costing tables. The amount of expenditure on these line items is not known.
- In 2008/09, the PCOs of Coast and Nyanza provinces, and the DCOs of Kibera, Dagoretti and Garissa undertook activities in both Phase 2 (continuation of payments in original locations – i.e. the expenditure being analysed here) and Phase 3 (start-up activities in new locations). Expenditure has been divided in the proportion 40 per cent to Phase 2 activities and 60 per cent to Phase 3 activities.
- Where revenue expenditure is the same as the budget for any province or district, funds are assumed to have been spent on the different line items in the same proportion as was planned in the budget. Where revenue expenditure exceeds the original budget, the extra is assumed to have been spent on additional field allowances and per diems. Where expenditure is less than the budget, it is assumed that there were fewer travel costs. These assumptions are based on communications with local personnel implementing the project.
- For districts where expenditure on monitoring conditions is unknown, it is assumed that 20 per cent of expenditure is devoted to monitoring conditions.

References

- Arellano, M. and Bond, S. (1991) 'Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations', *Review of Economic Studies*, 50: 277–97.
- Attanasio, O. (2005) 'How Effective are Conditional Cash Transfers? Evidence from Colombia', IFS Briefing Note 54.
- Caldés, N., Coady, D. and Maluccio, J. (2004) 'The Cost of Poverty Alleviation Transfer Programs: a Comparative Analysis of Three Programs in Latin America', Discussion Paper Brief 174, IFPRI.
- Central Bureau of Statistics (Kenya), Ministry of Health (Kenya), and ORC Macro (2004) 'Kenya Demographic and Health Survey 2003', Calverton, Maryland: CBS, MOH, and ORC Macro.
- Coady, D. Grosh, M. and Hoddinott, J. (2004) 'Targeting of Transfers in Developing Countries: Review of Lessons and Experience', World Bank, Washington DC.
- Donald, S., and Lang, K. (2007) 'Inference with Difference in Differences and Other Panel Data'. *Review of Economics and Statistics*, 89(2): 221–33.
- DuMouchel, W.H., and Duncan, G. (1983) 'Using Sample Survey Weights in Multiple Regression Analyses of Stratified Samples'. *Journal of the American Statistical Association*, 78(383): 535–42.
- Glewwe, P. and Olinto, P. (2004) 'Evaluating of the Impact of Conditional Cash Transfers on Schooling: An Experimental Analysis of Honduras' PRAF Program'.
- Hoddinott, John; Emmanuel Skoufias and Ryan Washburn (2000). "The Impact of PROGRESA on Consumption: A Final Report." Report, Washington DC: IFPRI.
- Imbens, G. and Wooldridge, J. (2009) 'New developments in Econometrics', CEMAPP Course Notes, Mimeo.
- Lanjouw, J.O. and Lanjouw, P. (2001) 'How to Compare Apples and Oranges: Poverty Measurement based on Different Measures of Consumption,' *Review of Income and Wealth*, 47(1), March.
- Maluccio, J., Flores, R. (2005) Impact evaluation of a conditional cash transfer programme: The Nicaraguan Red de Proteccion Social. Research Report No. 141. Washington, DC: International Food Policy Research Institute.
- MCDSS/GTZ (2005) 'Baseline Survey Report Kalomo Social Cash Transfer Scheme, Kalomo District, Zambia'.
- MCDSS/GTZ (2007) 'Final Evaluation Report Kalomo Social Cash Transfer Scheme, Kalomo District, Zambia'.
- Miller, C. *et al.* (2008) 'Targeting Report: External Evaluation of the Mchinji Social Cash Transfer Pilot', August.

Ministry of Gender, Community and Social Development (2008) CT-OVC Operational Manual, Mimeo.

Oxford Policy Management (2006) Kenya CT-OVC Cash Transfer Programme: Evaluation Framework Document, Mimeo, November.

Oxford Policy Management (2008) Kenya CT-OVC Programme: Operational and Impact Evaluation, Baseline Survey Report, Mimeo, July.

Oxford Policy Management (2009) 'OVC Cash Transfer Programme Evaluation, Qualitative Baseline Report', Mimeo, June.

Samson, M., van Niekerk, I. and Mac Quene, K. (2006) 'Designing and Implementing Social Transfer Programmes', EPRI.

Secretaría de Desarrollo Social (2008) 'Ten Years of Intervention External Evaluation of Oportunidades 2008 in Rural Areas 1997–2007'.

Slater, R. and Farrington, J. (2009) 'Targeting of Social Transfer: A Review for DFID', London: ODI.

Soares, F. Ribas, R. and Osório, R. (2007) 'Evaluating the Impact of Brazil's *Bolsa Família*: Cash Transfer Programmes in Comparative Perspective', IPC Evaluation Note 1.

Stewart, S. and Handa, S. (2008) 'Reaching OVC through Cash Transfers in Sub-Saharan Africa: Simulation Results from Alternative Targeting Schemes', UNICEF Social Policy and Social Protection Section Working Paper, August.

UNICEF (2000) MICS Country-Wide Report for Kenya, available at <http://www.childinfo.org/MICS2/newreports/kenya/kenyaTables.PDF>

WHO (1986) 'Use and Interpretation of Anthropometric Indicators of Nutritional Status', Bulletin, 64: 929–41.

WHO (1994) 'Issues in the Assessment of Nutrition Status using Anthropometry', J. Gorstein, K. Sullivan, R. Yip, M. de Onis, F. Trowbridge, P. Fajans and G. Clugston, Bulletin, 72(2): 273–83.

World Bank (2009) 'Project Appraisal Document on a Proposed Credit in the Amount of SDR 33 million (US\$50 million equivalent) to the Republic of Kenya for a Cash Transfer for Orphans and Vulnerable Children project'.