**Unpacking the causal framework: How can emergency cash transfers prevent acute malnutrition?**
**A summary of the study protocol for a cash transfer intervention study in Niger**

**Background:**

A review of emergency Supplementary Feeding Programmes (SFPs) was undertaken in 2005/2006, which concluded that such programmes which are targeted to already Moderately Acutely Malnourished (MAM) children may be ineffective in treating and preventing this MAM in certain contexts[1]. One recommendation was to study alternatives to targeted SFPs, such as an 'extended' General Food Distribution rations, 'blanket' SFPs (SFPs not targeted to MAM children, instead given to all children of a certain age group) with different fortified nutrition supplements, and cash transfers.

In response to the SFP review conclusions, the Emergency Nutrition Network (ENN) sought and was awarded funding from OFDA to undertake research into alternatives to targeted SFPs. Working with Save the Children UK, one of these studies is an emergency cash transfer intervention in Maradi, Niger. The other study ENN is overseeing is a blanket supplementary feeding programme in Chad being implemented by Oxfam Intermon with WFP.

The Niger Cash Study objective is: To add to the evidence base on interventions to tackle MAM. Specifically, to provide evidence on the effectiveness of Unconditional Cash Transfers to prevent seasonal weight loss and acute malnutrition in an emergency context, to understand how the cash works (unpick the 'causal pathways') and to examine the cost efficiency of the intervention.

**Why Niger?**

Niger is one of the poorest countries in the world; ranked 167 out of 169 countries on the Human Development Index[2]. During the past 40 years Niger has witnessed a four-fold increase in population growth and a decrease in arable land for food production and livestock. There has been an increase in poverty of rural households in particular, where access to productive goods is decreasing, where there is heavy reliance on an unfavourable market for cash incomes, with weak and uncertain purchasing power, and increased vulnerability to shocks. Roughly one fifth of people in Niger are severely food insecure. Conditions worsen during the lean period which starts in April/May and intensifies from July through to September, resulting in seasonal peaks in wasting prevalence rates (indicating acute malnutrition). An increase in stunting prevalence rates (indicating chronic malnutrition) in the last 15 years is a sign of a worsening of structural poverty.

Save the Children has been treating acutely malnourished children in the southern districts of Maradi and Zinder since 2005 as well as supporting primary health care service delivery and undertaking water, sanitation and hygiene interventions and running food security and livelihoods programmes, including cash transfers. These regions have the highest rates of stunting and underweight, and the worst indicators for child health and mortality in all of Niger. They are particularly vulnerable to food security crisis and have a large population (39% of the national population) (the areas covered by Save the Children represent 10% of the total Niger population).

**Why cash?**

Poverty and a lack of income are known associates of malnutrition and cash transfers (whether conditional or unconditional) are being implemented more widely to protect or improve access to

[1] Navarro-Colorado C, Mason F, Shoham J. Measuring the effectiveness of supplementary feeding programmes in emergencies. Humanitarian Practice Network paper 63, October 2008.

[2] UNDP Human Development Index 2010. http://hdr.undp.org/en/statistics/

food and basic services, where these are available and where the market is functional, and where affordability is an important barrier to people's access.

Improving income, however, does not necessarily mean that there will be a similar improvement in nutritional status, which is dependent to some extent on different behaviours and external conditions. A review of cash transfers carried out by the World Bank in 2009 concluded that, for CCTs, "generally [they] have been successful in reducing poverty and encouraging parents to invest in the health and education of their children"[3]. However, a recent review of 17 papers from 16 studies that looked at the effect of both Conditional and Unconditional Cash Transfers programmes on improving stunting rates indicated improvement in calories consumed and dietary diversity, but mixed impact on child nutritional status[4,5]. Evidence on the effect of Unconditional Cash Transfers on wasting, is more sparse, and especially so in emergency settings. Gaarder et al in their review examined over 40,000 articles finding "no papers analysing the use of cash transfers in short-term or emergency settings"[4].

**Study objectives and hypotheses:**

**Objectives: To quantify the relationship between Moderate Acute Malnutrition (MAM) and emergency Unconditional Cash Transfers in Maradi, Niger. Specifically, to determine which factors are associated with the incidence of MAM and weight-based growth in non-malnourished children through an emergency cash transfer intervention aimed at the prevention of MAM and, if possible, to cost the intervention in terms of cases of Moderate Acute Malnutrition averted.**

The study is not designed to assess impact, rather to identify the factors that affect the programme's success (or lack of success) in order to determine whether future programmes in a similar setting will also be effective. At the same time estimating the cost to outcome ratio of the programme will allow estimates of running costs and the benefits to running a programme to prevent malnutrition as opposed to one providing curative services. The assumption made is that increasing household income and/or protecting household assets will result in an improved situation that favours good child care and feeding practices and behaviours protecting and promoting children's nutritional status.

The **hypotheses** being tested are as follows:

- **Cash transfers will reduce the expected decline in weight-based growth rates of individual children during the lean period thus reducing the risk of becoming acutely malnourished and therefore of dying**
- **Provision of cash transfers will protect/increase household incomes during times of crisis thereby improving the ability to cope with shocks and reduce the loss of assets indirectly improving child wellbeing through protecting and/or increasing expenditure on food and other essential needs as determined by the beneficiary household**
- Cash transfers will reduce the incidence and prevalence of moderate malnutrition among children 6-59 months within the community (through community wide improvements in women's autonomy[6], and, as the cash is channelled through mothers/carers, improved utilisation of supply-side services (health, water) and food security)

[3] Fiszbien A & Schady N et al. (2009) Conditional Cash Transfers: Reducing Present and Future Poverty (2009). A World Bank Policy Research Report. The International Bank for Reconstruction and Development / The World Bank. 1818 H Street NW.

[4] Manley J, Gitter S, Slavchevska V. (2011) How Effective are Cash Transfer Programs at Improving Nutritional Status? Towson University. Department of Economics. Working Paper Series.

[5] Bailey S & Hedlund K (2012) The impact of cash transfers on nutrition in emergency and transitional contexts. A review of the evidence. HPG Synthesis Paper. Overseas Development Institute. London.

[6] There is evidence that the effect of improving a women's autonomy on child health mainly operates at community level i.e. the greater the number of women within a community who are autonomous then the

**Study methods:**

To better understand the mechanisms that lead to acute malnutrition, the relationships between cash transfers and the factors that influence feeding and other practices to prevent malnutrition will be unpacked by examining the causal pathways between cash transfers and child nutritional status. This will be done by using quantitative and qualitative methods in 5 'sub'-studies (see figure 1):

1. **Longitudinal (community-based cohort) study of non-malnourished children** to assess risk factors for becoming malnourished; this will estimate 'exposure-disease' associations after controlling for confounders by following a group of non-malnourished children over the length of the intervention. A baseline survey will be conducted using detailed child and household questionnaires, which include child anthropometry, morbidity and feeding information and collect information on determinants of malnutrition at the household level (wealth, employment and livelihoods, including external assistance, including coping mechanisms; income and expenditure; public health environment; women's status and autonomy; household consumption). Expenditure and consumption diaries will also be completed by enrolled households for the two weeks prior to the cash transfer initiation and at the end of the intervention period. A less detailed household level questionnaire will be administered once a month to follow child nutritional status and cash use.
2. **Interrupted time series (ITS)** of admission rates to health centre/feeding programmes to assess changes in incidence of malnutrition; this will be used to estimate acute malnutrition incidence rates pre- during and post intervention using secondary data from the previous two years as well as the current year. This data will be collected from secondary sources and health facilities.
3. **Nested case-control** on 'exposure to the intervention' (receipt of cash transfers) between malnourished and non-malnourished children will be carried out to assess the effectiveness of the intervention by determining the characteristics of beneficiaries (and households) who became malnourished (cases) compared to those who did not (controls); this will assess uptake and compliance of the intervention ('adopters' vs. 'non-adopters', i.e. mothers/carers who use the cash to adopt better care behaviours towards the child vs those who do not).
4. **Cost-outcome analysis** will assess costs involved in the intervention and possibly relate differences in costs of prevention using cash compared to costs of cure. Cost data will be captured in a 'programme questionnaire' administered to the programme manager, who will complete it by referral to the programme budget and financial reporting. Data from the longitudinal study and modelling using secondary data will be necessary to complete this analysis.
5. **Qualitative study**, using mixed methods (focus group discussion and key informant interviews both before and after the intervention and individual case histories between cases and controls in the case control study) to further assess contextual factors; this aims to fill in any gaps in knowledge on context and possible mediating factors not picked up through quantitative analyses. Checklists will be used to guide qualitative data collection.

The sub-studies are observational and will mainly estimate associations rather than causes. However, attempts to establish the 'plausibility' of the intervention having an impact will be made by using the 'interrupted time series' which will compare rates of malnutrition over different time periods, pre, during and post intervention times over a number of years where historical data are available. The studies will run concurrently to different schedules as per figure 1.

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greater the impact on child nutrition status (Hindin, M.J. 2000. Women's power and anthropometric status in Zimbabwe. *Social Science and Medicine* 51: 1517-1528)

**Figure 1: Timetabling of studies**

| Study | Time period | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2012 | | | | | | | | | | | |
| | Planning | | | Intervention | | | | | | Reporting | | |
| Month: | J | F | M | A | M | J | J | A | S | O | N | D |
| **Pilot** | | | | | | | | | | | | |
| Training and enrolment | | X | X | | | | | | | | | |
| **Long time series (ITS), (incidence; rate)** | | | | | | | | | | | | |
| Secondary data collation | | $X^0$ | $X^0$ | $X^0$ | | | | | | | | |
| Analysis | | | | X | X | | | | | X | X | X |
| **Longitudinal study (cohort) (incidence; rate ratio)** | | | | | | | | | | | | |
| Cohort enrolment/baseline/endline | | | | X | X | | | | X | | | |
| Data collection | | | | X | X | X | X | X | X | | | |
| Expenditure/consumption diaries | | | X | X | | | | X | X | | | |
| Analysis/reporting | | | | | X | | | | | X | X | X |
| **Nested case-control (OR or rate ratio)** | | | | | | | | | | | | |
| Enrolment | | | | | X | X | X | X | X | | | |
| Data collection | | | | | X | X | X | X | X | | | |
| Analysis/reporting | | | | | | | | | | X | X | X |
| **Estimates of numbers of MAM averted (Population Attributable Fraction)** | | | | | | | | | | | | |
| Secondary data collation | $X^0$ | | | | | | | | | $X^0$ | $X^0$ | $X^0$ |
| Analysis | | X | | | | | | | | X | X | X |
| **Qualitative studies (FGDs, KIIs and case histories)** | | | | | | | | | | | | |
| Data collection | | | X | | X | | X | | X | | | |
| Analysis | | | | X | | X | | X | | X | X | X |