



Research on Food Assistance for Nutritional Impact (REFANI): **Literature Review**

The REFANI Consortium is comprised of Action Against Hunger International (ACF), Concern Worldwide, the Emergency Nutrition Network (ENN) and the University College of London (UCL). With support from the Department for International Development (DFID/UKAID), REFANI examines the impact of cash and voucher-based food assistance on nutrition outcomes with the aim of creating an evidence base for high-impact and cost-effective mechanisms in the prevention of acute undernutrition in emergencies.

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ABOUT THE CONSORTIUM

REFANI is a 3-year research project funded by the Department of International Development (DFID/UKAID) of the United Kingdom. The project aims to strengthen the evidence base on the nutritional impact and cost-effectiveness of food assistance programmes, as well as identify the mechanisms through which this effectiveness is achieved. REFANI builds directly into DFID's Humanitarian Innovation and Evidence Programme (HIEP), contributing specifically towards improving the evidence base for humanitarian practice in emergency settings.

ABOUT THIS PUBLICATION

The REFANI literature review identifies existing evidence on the use of Cash Transfer Programmes (CTPs) and the impact of CTPs on acute malnutrition in humanitarian contexts. The review is structured as follows: *Section A* discusses the global burden of acute malnutrition; *Section B* highlights traditional food-based interventions; *Section C* explores cash-based interventions and the emergence of CTPs within humanitarian programmes; and finally, the existing evidence from CTP interventions is explored in *Section D*.

Importantly, the REFANI literature review identifies key gaps that remain in our collective knowledge base. In particular, the review finds that, although complicated given that the impact pathways of CTPs are numerous and context-specific, a greater understanding of *how* (i.e. the mechanisms through which) these transfers work is necessary. More evidence is also needed on a range of CTP design features (e.g. timing, duration, amount and frequency), modalities (e.g. cash or vouchers), and recipient targeting criteria. Finally, very little is known about the sustainability of such programmes and their cost-effectiveness, especially over the course of the post-intervention period.

The REFANI literature review lays the groundwork for REFANI's Global Research Framework (including the research project's overarching research questions and theory of change; *publication forthcoming*).

AUTHORS

Development of the REFANI literature review has been led by Bridget Fenn (ENN) and supported by the REFANI research team, including: Silke Pietzsch (ACF), Julien Morel (ACF), Myriam Ait-Aissa (ACF), Muriel Calo (ACF), Floor Grootenhuis (ACF), Kate Culver (Concern Worldwide), Carmel Dolan (ENN), Jeremy Shoham (ENN), Andrew Seal (UCL), Carlos Grijalva-Eternod (UCL), Victoria Sibson (UCL), and Ellyn Yakowenko (REFANI Research Coordinator).



Department
for International
Development



CONCERN
worldwide



UCL
Institute for Global Health



SECTION A:

THE BURDEN OF ACUTE MALNUTRITION

A recent analysis estimated that 32 out of 134 countries with available data had a prevalence of acute malnutrition¹ of 10% or more, a burden commonly recognised as a “public health emergency requiring immediate intervention” (UNICEF et al., 2012). Globally, these estimates equate to about 33 million children suffering moderate acute malnutrition (MAM, WHZ \geq -3 and $<$ -2) and a further 19 million suffering severe acute malnutrition (SAM, WHZ $<$ -3 and/or presence of oedema) (UNICEF et al., 2012).

In emergency settings, this prevalence of acute malnutrition may increase substantially with high levels of severe acute malnutrition and excess child mortality. For instance, global acute malnutrition (GAM) rose to around 40% in Southern Somalia during the famine in 2011, where an estimated 258,000 deaths occurred, over half of which were children (Checchi and Robinson, 2013).

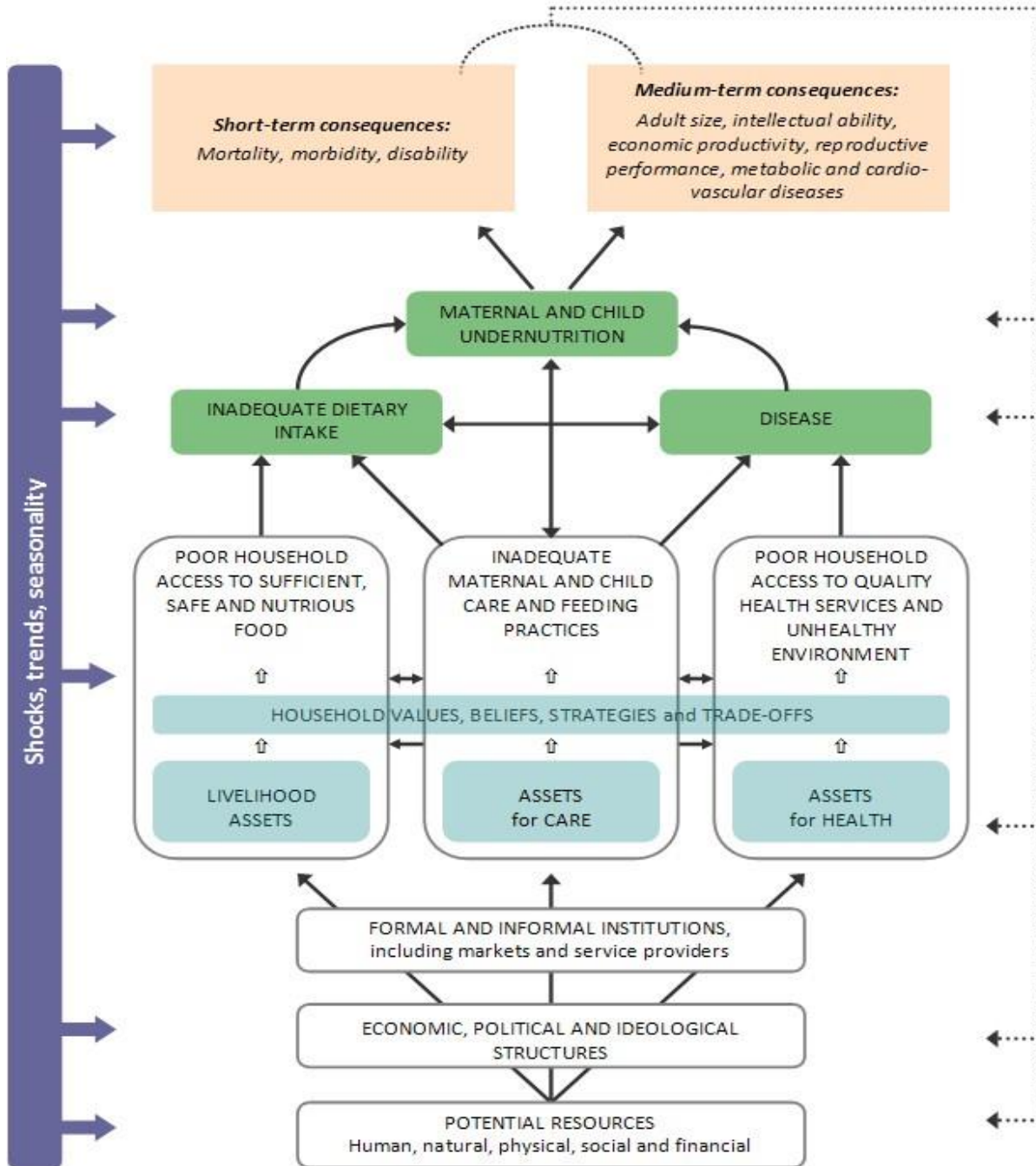
Compared to non-acutely malnourished children, MAM and SAM children have a three and nine times greater risk of dying, respectively (Black et al., 2008). These high risks of mortality are often increased during humanitarian emergencies where their situation is worsened by food shortages, an increased risk of infectious diseases, and a reduction in access to essential services due to conflict and insecurity. As well as this, vulnerable children who are wasted are often stunted (Richard et al., 2012) and these children have an even greater risk of mortality (Khara and Dolan, 2014).

The risk factors for undernutrition² are complex (see Figure 1), even in the absence of a humanitarian emergency, with a variety of immediate and underlying contributors related to lack of food (food insecurity), including insufficient breastfeeding and inadequate complementary foods, protein and nutrient loss from multiple respiratory and gastrointestinal infections, chronic immune stimulation due to persistent parasitic intestinal infections and, inadequate water and sanitation (Checkley et al., 2004, Humphrey, 2009, Ahmed et al., 2014).

¹ Acute malnutrition, defined as a weight-for-height Z score (WHZ) of $<$ -2 (WHO growth standards, 2006) and/or presence of bilateral pitting oedema, is a global problem affecting about 13% of children under 5 years.

² The term undernutrition used in this document refers to acute malnutrition, stunting and micronutrient deficiencies in the population of children under five.

Figure 1: ACF adopted Nutrition Framework based on the UNICEF model



As well as intergenerational causes intra-generational effects play an important role in child development. Mothers and carers strongly influence the survival and healthy development of their children through biological and psychosocial pathways (Grantham-McGregor et al, 1999; Wachs TD, 1999). Through biological pathways, for instance, maternal nutritional status, from conception through pregnancy to lactation, plays a crucial role on the survival and growth of the child (Wu et al., 2004, Levy et al., 2005, Zhang et al., 2009, Gewa et al., 2012, Widen et al., 2013). Mothers with low BMI or stature are more likely to give birth to babies who are small for gestational age (SGA). SGA is associated with a high risk of

mortality that extends through the neonatal period into the post-neonatal period (Katz et al., 2013) with increased risk of growth failure and non-communicable diseases in adulthood (Lawn, 2014).

Through psychosocial pathways, mothers are typically the front-line carers of children, playing an important role in feeding, preventing sickness and seeking health care. Healthy development of the child is influenced by the complex interactions between the mother/carer and the child which in turn are influenced by the mother's psychological status and mental health and the environment in which she lives (WHO 2004). A recent systematic review of 22 studies from developing countries published between 1990 and 2011 highlights a strong link between maternal autonomy and child nutritional status (Carlson et al., 2014). Women with low autonomy often share characteristics that are associated with poor nutrition status in children, e.g. lower maternal age, lower socio-economic status (SES), lower levels of education, and poor nutritional status (especially low BMI, low stature and micronutrient deficiencies) (Sethuraman et al., 2006, Chakraborty and Anderson, 2011, Simon et al., 2002, Ahmed et al., 2014).



Photo: ACF-Liberia, V. Burger

Maternal undernutrition is of great concern in many countries, and especially so for those in emergency settings (ENN, 2013b). Good maternal nutrition status is also crucial for the mothers' own ability to live a healthy life. Mothers with low BMI and short stature are at increased risk of obstetric complications leading to an increased risk of maternal morbidity and mortality, and face greater risks of adverse pregnancy outcomes (Kramer, 2003).

The 2013 Lancet series on Maternal and Child Nutrition reports that "the nutrition landscape has shifted fundamentally since the first Lancet Series was published in January, 2008" (Gillespie et al., 2013), reflecting in part the emergence of movements such as Scaling Up Nutrition (SUN). However, despite improvements in the nutrition landscape, gaps remain in the evidence that is available to inform effective policy and practice, especially regarding acute malnutrition. Since 1990, prevalence estimates of acute malnutrition have shown a slower rate of decline compared to those observed for stunting (height-for-age z-score <-2), with an 11% and 35% decrease, respectively (UNICEF et al., 2012).



SECTION B: TRADITIONAL FOOD-BASED INTERVENTIONS



Photo: ACF, Panay Island

General food distribution (GFD) is a common food intervention used in humanitarian emergencies. GFD rations usually aim to meet the immediate food needs of the whole population, but may provide inadequate nutritional content to prevent or treat acute malnutrition in children or pregnant and lactating women (PLW). Fortified blended foods (FBF) are often included in the GFD to improve the nutrient intake of vulnerable sub-groups within the general population, but these may still fail to meet their needs (Seal, 2007, Perez-Exposito and Klein, 2009) although recent advances have improved their formulation (de Pee and Bloem, 2009).

There is growing interest on the use of more specialised products like lipid-based nutrient supplements (LNS)³ instead of FBF within the GFD for children and PLW in emergency settings (Chaparro and Dewey, 2010). However, there is little evidence to suggest that adding LNS to the GDP will result in an improvement in child growth. To date, there is only one published study using this approach. This study found no impact on the incidence of wasting among children 6-36 months old, but observed improvements in haemoglobin status and linear growth, as well as an apparent reduction in morbidity (Huybregts et al., 2012). Evidence also suggests that adding LNS to a GFD greatly increases the cost of the overall intervention (Chaparro and Dewey, 2010, Puett et al., 2013b) and could be less cost-effective (Puett et al. 2013b).

Sustained concerns about the adequacy of GFD rations for vulnerable groups have led to a widespread use of supplementary feeding programmes (SFP) by many humanitarian agencies. SFPs that aim to treat MAM among children aged 6-59 months and PLW are known as targeted supplementary feeding programmes (TSFP), while SFPs that aim to prevent and potentially also treat MAM are known as blanket supplementary feeding programmes (BSFP). For prevention a variety of nutrition products have been used over the years,

³ LNS refers generically to a range of fortified, lipid based products, including products such as Ready-to-Use-Supplementary Foods (RUSF).

ranging from FBF such as Corn Soya Blend (CSB) and super cereal, to LNS such as Ready-to-Use-Supplementary Foods (RUSF).

Nonetheless, SFPs have raised concerns and attracted debate. For instance, the efficacy of TSFPs for the treatment of MAM has been questioned in certain contexts (Navarro-Colorado, 2008). Evidence on the effectiveness of available strategies to treat MAM remains inconclusive, however. A recent review assessing the effectiveness of interventions for treating MAM identified five robust studies, all of which compared the effect of treatment with RUSF vs CSB. The review showed that “children in the RUSF group were significantly more likely to recover and less likely to be non-responders than in the CSB group” (Lenters et al., 2013). Another systematic review that included eight randomised control trials (RCTs) concluded that for treating MAM, provision of LNS produced significant improvements in weight gain compared with CSB. However, the authors also concluded that whilst LNS showed significant nutritional benefits above CSB, there were no differences between the two groups in terms of mortality, progression from MAM to SAM, or defaulting rates (Lazzerini et al., 2013).

Despite the positive evidence on MAM treatment outcomes in some studies, children successfully treated for MAM remain at risk for malnutrition (MAM and SAM) and death in the 12 months after recovery (Chang et al., 2013). There is scant evidence about the longer-term impact on children treated for acute malnutrition although there is a suggestion that “the rapid weight gain associated with the use of energy dense supplements may lead to adult adiposity, obesity, and metabolic syndrome especially in malnourished subjects” (Adair et al., 2013). No studies that measured nutrition outcomes in PLW were found.⁴

The treatment of SAM was revolutionised in humanitarian contexts by the introduction of community-based management of acute malnutrition (CMAM), an approach in which the majority of beneficiaries are treated as outpatients and receive nutritional therapy at home in the form of ready to use therapeutic foods (RUTF) (Collins et al., 2006). Despite the success of this new treatment approach and its demonstrated cost-effectiveness⁵ (Lenters et al., 2013, Puett et al., 2013a, Wilford et al., 2012, Bachmann, 2009, Tekeste et al., 2012), the prevention of undernutrition is still preferable (Ruel et al., 2008) not only to reduce suffering, but also to capitalise on the simultaneous effect it can have on wasting, stunting and micronutrient deficiencies, if implemented effectively. Yet, until prevention of acute malnutrition is 100% effective, treatment of acute malnutrition will be needed alongside preventative interventions and there is a great need for advances in both.

Studies assessing the inclusion of specialised nutrition products in BSFPs to prevent malnutrition (e.g. LNS such as RUTF, RUSF, whey and milk-based spreads) have shown positive results in children (Isanaka et al., 2009, Isanaka et al., 2010, Defourny et al., 2009, Grellety et al., 2012, Ruel et al., 2008,) although one systematic review suggested a limited impact (Sguassero et al., 2012). It is acknowledged that prior receipt of a nutrition intervention (Isanaka et al., 2010), as well as other contextual factors, such as changing access to or use of health and social services and improved diets (Neufeld, 2009, Roberfroid et al., 2009) and the age of the children and the duration of their enrolment (Ruel et al., 2008) may all influence study outcomes. None of these studies measured impact on PLW. In addition, two recent programme evaluations and an observational study highlight the practical difficulties of programme implementation, with two of these studies reporting a high incidence of acute malnutrition among programme beneficiaries. These results raise questions about the effectiveness of BSFPs in ‘real-life’ situations (Oriere, 2010, CDC, 2013, ENN, 2013a).

⁴ One study identified is in progress in Ghana: Efficacy of Lipid-based Nutrient Supplements (LNS) for Pregnant and Lactating Women and Their Infants. Dewey K and Larty A.

⁵ As measured in cost per DALY averted and cost per life saved.

Whilst the evidence described above illustrates some of the positive impacts of food-based approaches to prevent and treat acute malnutrition in children, there are still critical challenges that need consideration. For instance, common logistical challenges in operationalising food-based interventions, such as pipeline breaks, can limit the effectiveness of GFDs and SFPs (Chaparro and Dewey, 2010, CDC, 2013, Oriere, 2010, ENN, 2013a). Also, the selling of rations may decrease the efficiency of food-based responses (Jaspars and Young, 1995) and the food-commodities distributed may be unfamiliar and unacceptable to beneficiaries in certain contexts (Violette et al., 2013). The cost effectiveness of food-based approaches have also been recently questioned (Defourny et al., 2009, Isanaka et al., 2009, Hendricks, 2010, Puett et al., 2013a, Oriere, 2010, Hoddinott et al., 2013b); although a recent study has highlighted the costs that can be saved by reformulating RUTFs (Bahwere et al., 2014).



Photo: ACF-Pakistan.

At present there is insufficient evidence of the potential negative effects of the use of specialised nutrition products on body composition and food consumption patterns (Hendricks, 2010). These limitations and concerns highlight the importance of continuing to explore alternative forms of food assistance and the role of non-food interventions, whilst they also illustrate the need to produce robust evidence on the effects of these interventions on acute malnutrition in both children and PLW.



SECTION C: EMERGING CASH-BASED SOLUTIONS

There is a growing trend towards developing complementary or alternative approaches for preventing acute malnutrition. One such intervention is cash transfer programmes (CTP) where vulnerable households, who have children at risk of undernutrition during periods of food insecurity or during emergencies, receive cash or vouchers.

Cash transfers (CT) are made as direct cash payments or bank transfers using various modalities such as paper vouchers, debit/smart cards and mobile phones. Meanwhile, voucher transfers can be exchangeable for fixed quantities of specific items (foods or non-food items or a service) or for cash value (exchangeable for a choice of specified food or non-food items with the equivalent value of the voucher) (WFP, 2010, ACF, 2007). Receipt of transfers can be conditional (CCTs), where beneficiaries need to meet a defined set of standards (such as attending an education session, getting a child vaccinated, etc.) or unconditional (UCTs). The choice of food, cash or voucher transfer should be made on the basis of an assessment of cost efficiency, the availability of basic goods on the market (i.e. food, where the objective is food assistance), the functioning of markets and secondary market impacts (low likelihood of inflation), the flexibility of the transfer and risks of insecurity and corruption (DG ECHO, 2013, DFID, 2013, Sphere, 2011, ACF, 2007). In addition, and if specific objectives are to be reached, CTPs need to be designed to take into consideration recipient preferences (Harvey and Bailey, 2011, Bailey and Hedlund, 2012), scale and value of the transfers and convenience to recipients (Devereux, 2008) and targeting and 'labelling'⁶ of the transfer, both of which may influence a household's spending patterns (Kooreman, 2000, Lyssiotou, 2005).

Non-governmental organisations (NGOs) have driven the current rise of CTP in humanitarian emergencies (Hofmann, 2005). In 2010, WFP announced a 'revolution' in their approach to 'food aid' by moving towards a more diverse set of 'food assistance' interventions, which may or may not involve a direct transfer of food (direct food assistance) (WFP, 2010). WFP currently estimate that 30% of their food assistance programming involves CTPs (IEAE 2014). Emergency CTPs are being used as alternatives to GFD and SFP; and as complements to these and other nutrition interventions (Bailey and Hedlund, 2012). In situations such as the cross-border programme from Turkey into Syria, some agencies are using both cash voucher programming and direct in-kind food distributions in proximate areas depending on market and security status. The 2011 Humanitarian Emergency Response Review recommended that DFID move towards this

⁶ Through sensitisation of CTP objectives.

approach in line with ECHO, and “make cash based responses the usual relief and recovery position for its partners”.⁷ Evidence suggests that cash assistance is a cost-effective intervention (Hoddinott et al., 2013a) and one that allows greater choice and fosters dignity (DG ECHO, 2013). CTPs are also more cost efficient. The results from a four country study showed that in each case the ‘per transfer cost’ of providing food was higher than cash (Margolies and Hoddinott, 2014). Another study on 12 impact evaluations concluded that “Costs associated with cash transfers and vouchers tend to be substantially lower relative to food (Gentilini, 2014).

Table 1 (below) shows where emergency CTPs have been or are currently being implemented⁸, and illustrates the different modes of delivery and the overall number of beneficiaries. These CTPs have a range of objectives, mostly focused on livelihood protection/support and access to food. Since 1992 approximately 74% of CTPs worldwide have had a food security/livelihood focus; 8% have focused on nutrition. In 2014 CTPs that focus on nutrition accounted for about 11% of the total of projects. This greater focus on livelihood protection and support is due partly because CTPs are typically designed and implemented by the food security sector which uses different conceptual frameworks to the nutrition sector (Levine and Chastre, 2011). There has also been an increasing emphasis on ‘multi-sector’ CTPs, with a wider range of objectives (Campbell, 2014). However, inclusion of nutritional outcomes has not been the norm (Bailey and Hedlund, 2012). The fungible nature of cash is both an advantage and a challenge in terms of achieving specific outcomes (Harvey and Bailey, 2011), and food vouchers have been more commonly used to achieve nutrition related outcomes (Bailey and Hedlund, 2012). It has been suggested that for CTPs to reach their full potential regarding nutritional outcomes, they require more explicit nutrition objectives and actions as well as ensuring access to quality health services (Leroy et al., 2009, Alderman, 2014).

Table 1: Emergency cash transfer programmes since 1992

Modality	Projects	Number of beneficiaries	Amount (euros)	Project location	Highest share of projects (No.)	Projects on Nutrition (%)
Vouchers	184	11,281,092	€ 538,972,552	Worldwide	Central Africa (51) Eastern Africa (44)	24 (13%)
UCT	175	7,543,180	€ 1,676,042,312	Worldwide	Western Africa (43) Eastern Africa (33)	17 (10%)
Cash for work	218	4,970,738	€ 1,525,017,654	Worldwide	South Asia (76) Western Africa (38) Eastern Africa (37)	11 (5%)
CCT	87	3,161,687	€ 1,761,171,958	Worldwide	South Asia (37)	8 (9%)
Cash for training	10	543,048	€ 13,685,153	South, East Asia & Pacific	South Asia (9)	0 (0%)
Vouchers for work	9	178,464	€ 6,362,971	Worldwide	Western Africa (3)	0 (0%)
Total 2014	107	4,655,567	€ 2,317,308,693	Worldwide	South Asia(29) Central Africa (19) West Africa (15)	12 (11%)
Total 2013	173	6,370,631	€ 997,511,176	Worldwide	Western Africa (53) South Asia (31)	19 (11%)

⁷ Humanitarian Emergency Response Review (2011)
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/67579/HERR.pdf

⁸ Data from the Cash Atlas <http://www.cash-atlas.org/>

The Conceptual Framework for Nutrition (Figure 1 above) depicts the interconnected pathways that can lead to increased undernutrition and mortality in emergencies and the entry points to prevent these outcomes through interventions at the immediate, underlying and basic level. CTP programmes have an advantage over direct food transfers, in that they have the potential to address the intermediate, immediate and structural determinants of undernutrition (Leroy et al., 2009, DFID, 2011, Yablonski and O'Donnell, 2009), whilst direct food transfers intervene mostly at the immediate causal level. This limitation of direct food transfers is “likely to undermine the long-term impacts and sustainability of immediate level interventions” (Leroy et al., 2009). Additionally, where markets are functioning well and prices are low enough, individuals may prefer CTP to food (Creti & Jaspers, 2006, Gelan, 2006, Harvey, 2007) as this encourages dignity and enables recipients to address their own perceived priorities and, potentially, more efficiently translate the assistance into positive outcomes. For instance, in some contexts, the lack of food may not be perceived as the most important constraint to survival and quality of life; in these contexts, expenditure on non-food items may have a greater impact on nutritional status than expenditure on food, although this is an area where very little evidence exists. However, where there have been fluctuations in food prices and CTs have been unable to match increasing food prices (e.g. during the financial and food crisis in 2008) preference has returned to food aid due to compromised household food security (Sabates-Wheeler & Devereux, 2010).

At present, there is limited and inconsistent evidence on the impact of CTP on nutrition outcomes (Ruel and Alderman, 2013, Manley, 2012). However, there is good evidence that CTPs increase household income and protect household assets from being sold (Manley et al., 2012, DFID, 2011). This increased household income and asset protection is potentially, generating an environment that favours behaviours that could protect children from malnutrition by two mechanisms: (1) by increasing the number of calories consumed and (2) by improving dietary diversity (Manley et al., 2012, DFID, 2011, Gilligan et al, 2013a). Whilst good evidence does exist on the positive impact of CTP on diets and food security, increased household income and asset protection may not be sufficient for reducing malnutrition in all situations (Banks and Brewer, 2002).



Photo: ACF-Pakistan.

The observation that improvements in food availability and access (both important for sustaining good nutritional status) may be offset by poor access to non-food necessities, such as sanitation and clean water, education, high-quality health care facilities and services, or by ineffective mechanisms for delivering these services is often termed the “leaking bucket effect” (Haddad et al., 1995). There is a general consensus that transfers (both food and cash/vouchers) are not likely to be efficacious when implemented as stand-alone interventions and are, consequently, most effective when complemented with other nutrition-specific and nutrition sensitive interventions (Bailey and Hedlund, 2012, Black et al., 2008, Bhutta et al., 2008, Ruel and Alderman, 2013, Holmes and Bhuvanendrah, 2013).

Further evidence, mostly obtained from longer term CCTs, suggests that CTs can improve uptake of health services where services are available, but, by itself, this does not often translate into improved nutrition outcomes (Manley et al., 2012). One potential explanation of this observed lack of impact on nutrition outcomes, despite improved uptakes of health services, is the complex interaction between food intake and illness, and its interaction with the overall health and caring environment. For a programme to maximise its chances of reducing the risk of acute malnutrition it needs to consider all the different levels and causes of malnutrition that are described in the UNICEF conceptual framework (Figure 1).



SECTION D: GAPS IN KNOWLEDGE

Although at present, across the humanitarian community there is a great deal of enthusiasm for CTPs (Scanteam-Analysts-And-Advisers, 2011, Garcia and Moore, 2012, Holmes and Bhuvanendrah, 2013), there is insufficient empirical evidence to demonstrate that cash is an appropriate substitute for food-based interventions to prevent acute malnutrition in children or mothers, including PLW, and to understand the circumstances under which CTP interventions are likely to be effective

The existing evidence of the impact of CTPs on nutrition outcomes originates mostly from CCTs implemented in development contexts in Latin America and the results observed are mixed (DFID, 2011, Manley et al., 2012, IEG, 2011, Gaarder et al., 2010, Fiszbein et al., 2009, Bailey and Hedlund, 2012). Furthermore, the focus on nutrition outcomes in these studies centres mostly on children and rarely on women (Holmes and Bhuvanendrah, 2013). The reasons put forward for explaining the mixed results observed includes: (1) differences in programme factors, e.g. additional complementary interventions; (2) different CTPs design features, e.g. the amount of the CT (Holmes and Bhuvanendrah, 2013); (3) differences in evaluation indicators, especially when different indicators are used to measure the same aspect e.g. women's empowerment (Carlson et al., 2014); and, (4) attribution complexity on the other sources of household income, e.g. remittances have not been adequately accounted for (Molyneux, 2008).



Photo: ACF-Mauritania, A. Garcia

Evidence explaining how CTs are used and how they benefit the child is difficult to obtain and is complex and thus limited. To expand generalisability and to inform improved programme design, more evidence is required that originates from different contexts and focus on unpacking the impact pathways that lead to improved nutrition outcomes (e.g. food, health and care, as illustrated in figure 1). The specific context in which CTPs are set (e.g. the nature of the emergency, the enabling environment, the underlying differences

in the risk factors affecting a population and the extent to which these are addressed) and the success of CTP implementation will likely influence its impact.

COMPLEMENTARY INTERVENTIONS

Taking into account the food intake/disease cycle there is a consensus that CTPs need to be complemented with other nutrition-specific and nutrition sensitive interventions to maximise effectiveness (Bailey and Hedlund, 2012, Black et al., 2008, Bhutta et al., 2008, Ruel and Alderman, 2013, Holmes and Bhuvanendrah, 2013). Published guidance advises “[where CTP] interventions have specific nutritional objectives, assessments should consider whether cash on its own will be sufficient to meet these objectives, or whether combinations of food and cash or complementary nutrition specific programming is needed” (Harvey and Bailey, 2011). Considering the multiple causes of undernutrition, such programming could include provision of nutrition supplements and education/counselling, but also interventions to provide or support health, water, sanitation and hygiene (WASH) services.

Several humanitarian actors have tested combining CTP with nutrient supplements in programmes treating children for acute malnutrition or in BSFPs (all in Niger) as a means to improve the effectiveness of nutrition programme outcomes. For instance, one study concluded that cash alone and access to CMAM services alone did not have an impact on child nutritional status, but cash plus better access to CMAM did result in a lower prevalence of global wasting (WHZ <-2 Z-scores) among children under-five (Aker and Nene, 2012). Likewise, another study saw a lower incidence of acute malnutrition when cash was provided alongside Supplementary Plumpy, Plumpy Doz or CSB++ (Langendorf et al., 2014). There was no significant difference between the cash only strategy, compared with the food only strategy (Langendorf et al., 2014). Lastly, cash was judged to limit ration sharing when delivered alongside a BSFP, which is assumed to promote the programme’s nutrition impact (Poulsen and Fabre, 2011).

Attendance at nutrition, health and hygiene education or counselling sessions (with or without inputs, such as soap) has been a condition of many large scale CTPs (Manley et al., 2012) and is sometimes used as a complementary intervention alongside food assistance programmes to promote behaviour change in support of project objectives. For instance, out of the 54 emergency CTPs reviewed by Bailey and Hedlund, 15 had nutritional education components (Bailey and Hedlund, 2012). There are examples that have suggested improved nutrition and/or diet indicators from both the large scale CTs with a health or nutrition conditionality (Manley et al., 2012) and emergency food assistance programmes with complementary education or Behaviour Change Communication (BCC) (Ruel et al., 2008, Bailey and Hedlund, 2012, Sibson, 2011, Poulsen and Fabre, 2011, Dunn, 2009, SCUK, 2011, Devereux, 2007). However, the design of the studies reviewed above did not allow for determination of whether this education component contributed to the positive outcomes of the intervention. One exception is a five armed RCT implemented in Bangladesh (Ahmed et al., 2013); this trial compared food with BCC, food only, cash only, and food plus cash in the disaster prone south of the country, as well as cash with BCC, cash only, food only and food plus cash in the northern, poorest region. Key findings for the northern region included that (a) food and non-food expenditure, calorie acquisition and diet diversity were significantly higher, and (b) the stunting prevalence was significantly lower among the households receiving cash with BCC compared to the other arms. Similarly, in the south, food with BCC had statistically significant impacts on income, food and non-food expenditure, calories and diet quality, but not stunting. The findings suggest the potential benefit that BCC, in addition to cash or food transfers, could have to influence indicators of household food security and in certain contexts stunting. The mechanism by which BCC operates remains unknown.

There is scarce evidence of the impact of complementary health interventions in CTP and there appears to be no evidence regarding the effectiveness of CTs implemented with complementary WASH interventions. Bailey and Hedlund concluded that cash is unlikely to impact through a health pathway unless access to quality health services is guaranteed (Bailey and Hedlund, 2012). In 2014, a before and after observational study in Niger highlighted the importance of the diet-disease cycle and concluded that complementary interventions aimed at reducing morbidity could have added benefits for child nutritional status (Fenn et al., 2014). Evaluations of CTPs implemented by Save the Children in Niger between 2009 and 2014 also emphasise that the public health environment could alter the impact of CTPs on child nutrition status. For instance, in 2009 it was observed that CTPs would benefit from complementary disease prevention activities and micronutrient supplementation to better protect child nutritional status (SCUK, 2009).

To summarise, more evidence is required on the specific impacts and pathways conferred by complementary interventions to CTPs, provided either as a single complementary interventions or in combination. Additionally, more evidence is needed on how to identify the contexts in which these CTP complementary interventions are required to prevent or reduce the risk of developing undernutrition.

CTP DESIGN FEATURES

Timing and Duration of the Intervention

The determinants of undernutrition are often seasonal and are likely to change in response to shocks and disasters. Consequently, the timeliness of initiation as well as the duration of any CTP are likely to be important factors affecting its ability to prevent undernutrition. To date, however, there is little or no evidence on the impact of these two design features. Timing has been shown to have a critical role in the way beneficiaries use the cash (ACF, 2007, Bailey, 2008). Bazzi et al., working in Indonesia showed that delaying the delivery of UCT was associated with a lower expenditure on food items (Bazzi et al., 2012). Bailey comments that, “seasonality influences the effectiveness of different types of transfers in improving food consumption, at least in certain contexts” (Bailey, 2013b). This was also observed in the results from a qualitative study in Niger where households reported that cash given before or during the hungry season would be most likely spent on food whereas cash given at the end or after the hungry season would more likely be used for productive assets and paying off debts (Bailey, 2008). Results from a study of a seasonal CTP in Niger indicated that the children with a low weight-for-height z-score at the start of the lean season were possibly at greater risk of becoming acutely malnourished, suggesting that CTP could potentially have a greater impact on nutrition outcomes if initiated earlier, especially among the vulnerable (Fenn et al., 2014).

Amount of Cash Transfer and Frequency of Distribution

Good practice for CTP programming requires calculating the amount of CT based on needs (both assessed and perceived), programme objectives, and the local context (for instance by assessing the households’ ability to meet those needs) (ACF, 2007). A review of 17 CCT and UCT in Latin America, Asia and Africa indicates that this amount varies significantly – from 4% of the income level in Honduras to about 250% of the per capita household income in South Africa, both calculated using data prior to the intervention. Most transfers range from 10 to 25% of initial household income (Manley et al., 2012). The amount of CT needs to have a significant contribution to the household economy if it is to have an impact on nutritional status (Barrientos and Scott, 2008).

In terms of CCTs and stunting outcomes, evidence has shown that larger CT amounts can lead to better child linear growth outcomes (Fernald et al., 2008) and transfers of between 15% and 30% of the overall household expenditure have more observable impacts on nutrition outcomes (Leroy et al., 2009, Fiszbein et al., 2009, Gertler, 2004). In some cases, the amount of CT has been perceived to have an impact on well-being e.g. Brazil (Barrientos and DeJong, 2004). No evidence exists looking into whether transferring different amounts of cash are associated with varied levels of impact in preventing undernutrition in emergencies (Bailey and Hedlund, 2012).



A child's middle-upper arm circumference (MUAC) is measured to detect malnutrition. Photo: ACF-South Sudan, O. Serrano

A point of note here regards the impact of exchange rates on food purchase, when cash is given in a different currency. An evaluation of a WFP CTP during the Somalia famine in 2011, where cash was given in USD, saw recipients disadvantaged as the unfavourable exchange rate and resulted in recipients receiving less money than they did at the start of the programme (although this was offset by lower food prices) (Longley 2012). And for a few isolated recipients, at the mercy of the bankers, saw different rates of exchange on cash distribution days (Longley 2012).

As well as the amount transferred, the frequency of the transfer may be an important feature potentially influencing CTP impact. However, at present the evidence is difficult to interpret. Evidence supporting the potential importance of more frequent transfers suggests that regular payments (monthly or bi-monthly) have a greater short-term impact on nutrition outcomes and the underlying causes of undernutrition, such as food expenditure, when compared to less frequent or lump-sum transfers (Adamu, 2004). In contrast, less frequent and lump sum transfers are more likely to be invested in productive activities such as agricultural production (Farrington and Slater, 2009, Haushofer and Shapiro, 2013a, Haushofer and Shapiro, 2013b). The study by Haushofer also showed that larger but less frequent transfers resulted in better outcomes in household asset holding, psychological well-being, food security, health (including children under-five weight-for-age, height-for-age, MUAC, vaccinations, treatment), education and women's empowerment (Haushofer and Shapiro, 2013a, Haushofer and Shapiro, 2013b). It is important to note the additional aspects operating in the households, for instance, evidence from Mexico showed that larger transfers are associated with a greater likelihood of intra-household violence (Angelucci, 2008). Another study showed that women are more likely to hold on to smaller and more frequent given amounts of cash and are more likely to spend this in ways that benefit a child's nutrition, health and education (Wasilkowska, 2012).

Conditionality

A review of 17 CTPs in Latin America, Asia, and Africa found that CTs that were conditional on health/nutrition actions were likely to lead to positive nutrition outcomes, whereas conditionality on work or savings showed negative results (Manley et al., 2012). However, the precise role that conditionality in CT plays on nutrition outcomes is not well understood, as there is a lack of conclusive evidence on whether the positive benefits result from conditions placed on the grant or simply from the fact that households have

more money with which to buy food, pay for education and go to health centres (Bailey and Hedlund, 2012). Conditionalities placed on CTs are rare in emergencies because often enforcement of the conditions is perceived to pose administrative or logistical challenges leading to significant delays in response (ACF, 2007) and/or the behaviour change objectives may not be perceived as appropriate to the emergency context (Bailey and Hedlund, 2012). Furthermore, in emergency contexts, quality and access of public service infrastructure is often inadequate, rendering it inappropriate to make CTP receipt conditional on its use. In relation to complementary interventions, particularly those with an explicit nutrition objective, the most common conditionalities for emergency CTPs relate to participation in BCC activities and in selective feeding programmes. Vouchers, instead of cash, are commonly used where the objective is to improve dietary diversity (Bailey and Hedlund, 2012). However, whilst there are a number of examples of positive nutrition outcomes in emergency CTPs with these types of conditions (Bailey and Hedlund, 2012), studies are not robust and there is a need for more evidence to estimate the benefit that conditional activities have on the impact attributable to the conditional transfer.

A more recent systematic review and meta-analysis on a number of different cash transfer programmes, including CCTs, on coverage of child health interventions generally concluded that CCTs have the potential to improve coverage but the quality of the evidence available was low (Bassani et al., 2013). This review included one study from Zimbabwe that compared CCTs with UCTs against a control group on birth registration, school attendance and vaccination uptake. Whilst there were positive changes for both CCTs and UCTs against a control for all three areas the authors concluded that more research was necessary (Robertson et al., 2013)

Cash versus Vouchers

The choice of cash or vouchers should be guided by the country context (including best practice and recipient preference) and be designed to meet the desired changes required (e.g. nutritional objectives). At present, the evidence of whether cash or vouchers have greater impact on nutrition outcomes is scarce but emerging. A recent four-country study showed that where markets function, both cash and food vouchers⁹ are more cost-effective and have a greater impact for improving dietary diversity than food transfers (Hoddinott et al., 2013a). Interestingly, in some of these interventions, food vouchers were more efficient than cash in improving dietary diversity and were also more cost-effective (Hidrobo et al., 2012). A three country study looking at food, cash and vouchers also saw cash and vouchers having a significant improvement on dietary diversity (Gilligan et al., 2013a). Conversely, a study in DRC concluded that whilst the differences observed in spending between households receiving either cash or vouchers (partially restricted to food) did not lead to differential improvements in food security, household coping strategies or asset ownership; households that received cash were able to save some of their transfer (Aker, 2013). This study also concluded that the CTP was more cost-effective for the implementing agency than the voucher programme (Aker, 2013). At present, there is no evidence comparing cash or voucher programmes on longer-term cost-effectiveness, regarding the number of cases of malnutrition averted.

Communication of Programme Objectives

Adequate sensitisation of recipients and communities about the objective of the programme and the intended use of the CT is best practice (ACF, 2007, Garcia and Moore, 2012). Communication may also take the form of 'labelling' a cash transfer. Labelling of transfers gives the opportunity to highlight the intended use of the transfer without the necessity of adding conditions. For example, a 'child' support benefit clearly

⁹ Commodity vouchers where vouchers are exchanged for food stuffs

identifies that the transfer is to be directed toward children. A ‘labelling effect’¹⁰ was noted by Lyssiotou in a study on child benefits in the UK whereby there was a propensity for greater expenditure of the benefits on children’s clothing, as also documented by Kooreman (2000) and on children’s food (Lyssiotou, 2005). In more developmental settings labelling was deemed a possible reason for the significant impact on mean weight-for-age in siblings aged 6-60 months of school-aged girls in a school feeding programme in Burkina Faso; suggesting evidence of intra-household food reallocation (Kazianga et al., 2014). A study in Morocco whereby households received an unconditional cash transfer labelled for education saw marked impact on school participation of primary school aged children (Benhassine et al., 2014).

However, there is very little documented robust evidence around the nutritional impact of sensitisation of objectives or labelling of transfers in emergency settings, nor on the extent to which this is implemented. More evidence is required on the extent to which communicating the programme objective may influence the CTP impact.

Targeting of Beneficiaries and Recipients

Targeting of CTPs might be required to ensure the efficient use of resources in maximising benefits for the intended beneficiaries and minimising risks. Targeting, as with other forms of humanitarian interventions, may involve the selection of population groups, households, and/or individuals within those households using a variety of approaches according to the local context; examples include the use of geographic data, social and economic data, physiological status, age, whether households are female-headed, etc. However, there is insufficient evidence on which type of targeting works best in specific humanitarian contexts.



Photo: ACF, Daniel Burgui

Evidence from the development literature indicates that targeting interventions to PLW and younger children, during the first one thousand days (in and ex-utero), has greater impact on child nutritional outcomes (Bhutta et al., 2008, Bryce et al., 2008), but as highlighted, very limited evidence exists on the impact of emergency CTPs on child nutritional status, and none on PLW. During emergencies, when malnutrition incidence increases, an increasing proportion of older children may be affected. In contrast to development programming, the available evidence does not support the focussing of emergency nutrition interventions solely on children aged 6-23 months, unless context specific data is available to justify this narrowing of targeting criteria. It is important to note here that the focus of emergency nutrition programmes remains children between 6 and 59 months of age, due to both their vulnerability and their use as an indicator group that is used as a proxy for the nutritional status of the whole population.

¹⁰ Referring to the name of the benefit as opposed to whom it is given

Within households, individuals may be targeted as the main recipient of CTPs as a means to maximise the impact of the CTP, typically choosing between the head of household or a woman (ACF, 2007). Various approaches can be used to try to ensure that the transfer is received, retained, and used by the intended recipient, but in some circumstances, pre-existing practices within communities and households may prevent this objective from being realised. There is some precedence for CTPs to be targeted to women where the CTP is intended to impact on the child; however, there has been limited research looking at gender roles within households



Photo: ACF, F. Serieux.

receiving CTPs and whether the decision to give the transfer directly to women can be considered a 'naïve' one (Garcia and Moore, 2012). Evidence suggests that giving cash to women, rather than men, will often lead to a greater improvement in children's well-being by increasing women's control of household resources (Quisumbing and McClafferty, 2006, Duflo and Udry, 2003, Molyneux and Thomson, 2011, Yoong et al., 2012) and subsequently increasing spending that will benefit children's health, nutrition (Barrientos and Scott, 2008, Sabates-Wheeler and Kabeer, 2003, Fiszbein et al., 2009, Schady and Rosero, 2007, Haushofer and Shapiro, 2013a, Haushofer and Shapiro, 2013b, Yoong et al., 2012) and education (Wasilkowska, 2012, Haushofer and Shapiro, 2013b, Haushofer and Shapiro, 2013a). However, there is also evidence that suggests that any impact of transfers received by women, on the outcomes of their children, does not work through these pathways (Handa et al., 2009, Braido et al., 2012, Benhassine et al., 2014).

There is evidence that CTPs targeted at men results in increased spending on assets and their own consumption (Haushofer and Shapiro, 2013b), but there is a gap in the evidence on whether and how such men's spending behaviours may also influence child nutrition outcomes in the longer term, working through different nutrition impact pathways. That men and women spend on different things is further evidenced in the theories against household 'income pooling' of cash transfers, suggesting that incomes earned by women are treated differently than those by men within the household (Lyssiotou, 2005, Attanasio & Lachene 2002). It should be noted that the generalised view that men are more likely to spend money on "antisocial" or temptation goods may be the result of stereotyping, as some studies have shown that this is not the case (Slater and Mphale, 2008, Haushofer and Shapiro, 2013a, Haushofer and Shapiro, 2013b, Evans & Popova, 2014).

Some evidence suggests gender-based targeting may upset household gender relations and lead to violence (Doepke and Tertilt, 2011), but again, results are very context specific and inconsistent. Ultimately, the impacts of CTPs based on the gender of the transfer recipient show mixed results (van den Bold et al., 2013) and there is limited insight into the impact pathways and timeframes causing such variability. More evidence is needed on the importance of the CTPs recipients' gender in determining the programmes impact and impact pathways, both in the short and longer term.

SUSTAINABILITY OF IMPACT

Unlike food based interventions where there has been some investigation of risk of malnutrition at least 12 months after recovery (highlighting a remaining risk) (Chang et al., 2013), the limited evidence of impact of CTP on acute malnutrition is entirely focused on the short term (Bailey and Hedlund, 2012). There is therefore, a need to examine the medium and longer-term impact of CTPs on nutrition outcomes.

BEHAVIOURS, PROCESSES AND NUTRITION IMPACT PATHWAYS

Recipient Decision-making

Factors determining recipient's decisions about the use of CTs (whether to save or spend a cash or voucher transfer and about what goods or services to purchase) are complex. As well as this are the decisions about how this is done (whether the transfer is seen as a separate income or is absorbed (pooled) into the general household income). Answering these questions requires an understanding of the mechanisms through which households allocate resources internally, and who makes these decisions (Bailey 2014), as these may have a strong bearing on nutritional outcomes.

The evidence surrounding decision-making is limited and what evidence there is, is difficult to generalise (Barrientos and DeJong, 2004) as this is highly context-specific and depends to some extent on socio-cultural norms as well as individual choices. In outlining the causal pathways through which cash might theoretically impact on nutrition, Bailey and Hedlund state "how people actually prioritise spending and the goods and services available to them would need to be understood in assessments and verified in monitoring" (Bailey and Hedlund, 2012).

In reality there may well be a difference between what the transfer should be spent on and what it actually is spent on. This is related to what happens to the transfer once received by the household. There is evidence to reject the hypothesis of income pooling (Lyssiou, 2005, Attanasio & Lachene 2002). Supporting this Alderman reports, from evidence from Latin America, 'households commonly spend more on food and health out of transfer income than from general sources of income even when the transfers are only indirectly linked to nutrition and health' (Alderman 2014). This ties in with the notion of 'mental accounting' whereby transfers are set aside, or 'labelled, for a specific purpose thus influencing the decisions made on how the transfer is used.

However, more evidence is required to unpack which factors determine CTP recipient's decision-making for use of the transfer and how this decision influences child's nutritional status.

Maternal Well-being

As acknowledged above, mothers influence their child's nutritional status directly through conception, pregnancy and lactation and indirectly through their child caring practices. Mother's well-being – their diets, mental and physical health and empowerment – determines their own nutritional status and their ability to care for their child, which both ultimately affect the child's nutritional status.

A. Impact of CTP on Mother's Nutrition, Diet, Health and Empowerment

For women and mothers, there appears to be no evidence to indicate that emergency CTPs do, or do not, impact on their nutrition outcomes and the immediate and underlying determinants of their nutritional status. This may be because protecting or improving their nutritional status is rarely a specific objective and even when it is, anthropometric data is not collected to assess an intervention effect. Of the 54 CTP evaluations reviewed by Bailey et al. (Bailey and Hedlund, 2012) only two targeted PLW with an objective to prevent malnutrition and neither collected data on their outcomes or impact pathways (SCUK, 2011, Poulsen and Fabre, 2011). Evidence of how much CTPs are or could be designed to support maternal nutrition, is lacking (ENN, 2013b). Reviewing the literature on CT in development contexts yields additional information but its generalisability is questionable. A review of 123 CTPs in Sub Saharan Africa found that very few targeted mothers (Garcia and Moore, 2012) and another highlighted "There is little attention to CTPs impact on adult nutrition, such as BMI, or

women's nutrition status, such as measurements of anaemia" (Holmes and Bhuvanendrah, 2013). In terms of impact pathways, the literature on the effect of CTs on women's diets, health and empowerment is limited and inconclusive.

CTP impact on diet is typically assessed through examination of indicators reported at household level (meal frequency, household dietary diversity and/or food consumption scores) and unless data are disaggregated to take into account intra-household sharing, it is not possible to make inferences about the extent to which mothers (or children's) diets have changed. Nevertheless, there is some evidence from Mozambique and Zimbabwe, which suggests that CTP receipt can increase meal frequency/consumption in women (Soares and Silva, 2010, Devereux, 2007). CTs, especially with a conditionality attached and where good quality facilities exist, have shown to improve health seeking by mothers (Lagarde et al., 2007). However, the evidence for this improvement is limited for emergency CTPs or UCTs. One study showed that, for women in households receiving an UCT, whilst there was a significant improvement in mother's self-reported mental health there was a decline in their physical health (Fenn et al., 2014).

The potential effect of CTP receipt on mother's empowerment is important because there is a link between women's empowerment and child nutrition (Carlson et al., 2014) through improving their own nutritional status as well as childcare practices (van den Bold et al., 2013). "Women who are not empowered are more likely to have more time constraints, lower mental health, less control over household resources, lower self-esteem, and less access to information about health services" (Bhagowalia et al., 2012). Building



Photo: ACF-Niger, S. Sanders

on the review of evidence on the impact of CTP targeted to women above, there is evidence that a critical pathway at play is the empowerment of the female recipient. For instance, a study of the Nicaraguan CCT confirmed previous similar findings that the greater a woman's power, the more likely she is to spend exogenous transfers on their children (Gitter and Barham, 2008). However, whilst providing cash to women can empower them and lead to positive outcomes for children, it can also have unintended consequences through disrupting gender relations (Doepke and Tertilt, 2011) and leading to violence against women (VAW), especially domestic or intimate partner violence (IPV). There are conflicting views as to the impact that CTs have on IPV (Hidrobo and Fernald, 2013), with evidence suggesting a relationship regarding the size of the CT – smaller CTs reducing IPV whilst larger CT sizes increasing IPV, since this challenges the traditional views on gender roles and utility of men within the household (Angelucci, 2008, Hidrobo and Fernald, 2013). The evidence is further complicated as differential education status between men and women modifies the risk; women with equal or greater education status to men are at greater risk of IPV (Hidrobo and Fernald, 2013). Regarding the impact of IPV on childhood nutritional status there is growing evidence of a (significant) association between IPV and wasting, stunting and underweight (Hasselmann and Reichenheim, 2006, Ackerson and Subramanian, 2008, Rico et al., 2011, Salazar et al., 2012).

B. Impact of CTP on Caretaker's Caring Practices

In reviewing the evidence for impact of CCTs on child nutrition, Leroy et al (Leroy et al., 2009) unpack the care pathway to consider women's time, women's knowledge and awareness, as well as women's empowerment as determinants of child caring practices, which may be split in to those that are health-related and those related to feeding. It has been suggested that provision of CTP to women could free up women's time by reducing the need to pursue income-generating activities away from the household, which might have positive effects on child feeding and caring practices (Leroy et al., 2009). Bailey et al. (Bailey and Hedlund, 2012) cite several evaluations of interventions in Africa that indicate CTP recipients reduced the time spent away from home doing piecework, searching for wild foods and migrating for work; in addition, an example from Malawi where transfers were used to pay for milling shows that women's workloads were reduced at home, allowing them to spend more time caring for children (Devereux, 2007). But there is also some evidence to the contrary from CCTs, that collecting the transfer and meeting conditionalities may create a time burden (Molyneux and Thomson, 2011).

As outlined above, there are some positive examples from humanitarian contexts of improved knowledge and attitudes of mothers enrolled in CTPs with complementary education components, but it is not possible to attribute impact to change in knowledge as distinct from receipt of cash.

There is very little evidence regarding the impact of CTP on health behaviours in humanitarian contexts. What does exist comes from programmes where a CTP includes an education component, and as before, the evaluation design means that impact on health behaviours cannot be attributable to either the cash or the change in health practices. As outlined above, health service use may be limited by deficiencies in the services available as opposed to economic barriers to health care (Bailey and Hedlund, 2012). Evidence from CCTs in Latin America is of limited generalisability to humanitarian contexts.

There is only marginally more evidence on the impact of CTPs on child feeding practices in humanitarian contexts, and again, statements about attribution are not possible. A SCF intervention in Myanmar among Cyclone Nargis affected communities showed that providing nutrition education with a CT to mothers may have contributed to an improvement in caring practices (Khin Maung Aye, 2011). The breastfeeding practices of poor lactating women in Myanmar were found to improve when they were enrolled in a CTP, which aimed to enable them to stay at home by relieving the economic pressure to work (Sibson, 2011). In this qualitative study, recipients reportedly had more time for child care, increased knowledge and understanding of IYCF practices, improved diet diversity and prevalence of exclusive breastfeeding (Sibson, 2011). Knowledge, attitudes, and practices of mothers provided cash and education were found to improve in Niger (SCUK, 2009) and also among mothers provided with fresh food vouchers and education in Dadaab refugee camps in Kenya (Dunn, 2009). Only one example of impact on breastfeeding could be found from the development literature, where an evaluation of a Colombian CCT found an increase in the duration that children were breastfed by 1.44 months in urban areas and by 0.84 months in rural areas (Glassman et al., 2006).

More research is needed on how CTP may affect the social and care environment in emergency contexts (Bailey and Hedlund, 2012) and to fully explore the care pathway, more evidence is also needed on the effect of CTPs on mother's well-being directly. Both are important because of their potential direct and indirect impact on child nutritional status.

Intangible Assets among Other Members of the Household

Whilst much of the limited literature on CTPs and nutrition focuses on the change in intangible assets of women as mothers and carers of children, the extent of her empowerment to fulfil this role will depend on societal norms and expectations, as well as the role of her husband, mother-in-law, and whomever else is influential in determining child caring practices in a given context. For this reason, it is vital that studies that seek to understand the well-being of mothers in CTP households and their caring practices, examine also the effect of the CTP on time usage, knowledge, empowerment and social capital of other household members.

FACTORS DETERMINING DESIGN AND IMPLEMENTATION

CT design requires a “highly context and event specific” approach. In addition to the characteristics of the humanitarian crisis, market functioning, and the enabling environment for CTP, other factors are important in determining whether a CT is an appropriate nutrition intervention or not, and if so, what form it should take. These factors may include the level of acute malnutrition, the nature of care practices, adequacy of knowledge about nutrition, health and hygiene, and the availability of other inputs that affect the health of individuals, such as access to quality health services. As well as these factors, the preference of recipients need to be taken into consideration through consultation (Scanteam-Analysts-And-Advisers, 2011).

Considerations relating to the decision to implement CTPs, which are outlined alongside best practice design features, include coordination and political feasibility, skills and capacity and cost effectiveness (Harvey and Bailey, 2011). Such factors have been seen as important constraints to appropriate response analysis and evidence based choices for food security responses more generally. Additional influences include: (a) external factors, such as donor resources, government policy, the cost of compliance, political considerations and the media; (b) programme experience, such as monitoring and evaluation, cost-effectiveness and timeliness, as well as what worked last time; and, (c) organisational ethos, such as organisational capacity and mandate, risk management considerations, assumptions about donor resources, assumptions about recipient preferences and interpretation of analyses. These forces may be more influential than the fundamental diagnostic process outlined above (Maxwell et al., 2013). However, the extent to which they enable best practices to be applied as well as being constraints does not appear to have been documented for CTPs specifically.

Programme implementation is a critical element of a successful CTP; developing an appropriate context specific design involves a good understanding of the enabling environment within which the programme is set. CTPs need to be disbursed in a timely and predictable manner with clear programme guidelines on eligibility, schedule and time periods for entitlements if households are to manage risks effectively (Barrientos and Scott, 2008). Aside from the typical challenges of intervening more generally in humanitarian contexts, security related challenges and threat of theft and diversion are particularly pertinent for CTPs (Harvey and Bailey, 2011).

There are two main reasons that data should be collected on any studied CTP to understand both the full range of factors and forces that shape their design and to measure the effectiveness of their implementation. Firstly, for study results and recommendations to be useable by decision makers, the findings must be framed in a manner that demonstrates an understanding of the constraints in which programme design decisions are made. Secondly, for study results to be appropriately interpreted there is a need for a full and sound understanding of the extent to which the intervention was implemented according to plans.

COST-EFFECTIVENESS

Measuring and Analysing Cost-Effectiveness

According to Bailey (2014), the main approaches to cost-effectiveness analysis include: a) calculating cost per outcome, b) comparing the costs and benefits of different transfers, c) assigning values to different benefits and then comparing the total score with the cost per recipient of different approaches, and d) providing a general conclusion on cost-effectiveness that does not provide comparative analysis with other possible approaches. However, the cost-effectiveness evidence base is comprised mainly of studies that have utilised the last approach – providing judgments about the cost-effectiveness of programmes in a general manner, without specific analysis on cost per outcomes (Bailey, 2014).

Many CEAs use data from organisational accounting systems to document programme resource use, known as institutional or administrative costs. Additionally, there are many non-budgeted costs which contribute to the functioning of a programme, including costs borne by partner agencies, participating communities, and the beneficiaries themselves. The WHO recommends that CEAs include these *economic* costs, rather than only costs from financial accounting systems (Johns et al., 2003). Meanwhile, DFID's Guidance on Measuring and Maximising Value for Money in Social Transfer Programmes (White et al., 2013) stresses that all costs of an intervention should be considered, including the transfer, administrative costs (e.g. training, targeting, delivery, etc.) and private costs (e.g. recipient costs).



Photo: ACF-Kenya

Similarly, Devereux et al. (2008) conclude that in principle all costs attributable to provision of the transfer should be accounted for, echoing the suggested approaches of both the WHO and DFID; however, the choice of which costs to include depends largely upon the analytical perspective of the CEA. For example, a CEA taking a societal perspective, as is recommended by the WHO-CHOICE project and the US Panel on Cost-Effectiveness, consider all costs of an intervention, regardless of who incurs them (Russell et al., 1996, Tan-Torres Edejer et al., 2003). Societal CEAs include direct costs such as households' travel expenses and indirect costs such as the value of time spent by household members participating or accessing care from a programme (Musgrove & Fox-Rushby, 2006, Russell et al., 1999). Existing research in developing countries has demonstrated that these *hidden costs* to households - particularly in terms of distance, cost of travel, and opportunity cost of time - are important determinants of health service access and utilization, and key factors in programme effectiveness (Guerrero et al., 2010, Puett et al., 2013a, Saksena et al., 2010).

Often more complicated to calculate than cost-efficiency, cost-effectiveness is an important measure of programme performance, bringing valuable insights for programme management, and providing guidance for decision-making regarding resource allocation and priority setting (Tan-Torres Edejer et al., 2003, Musgrove & Fox-Rushby, 2006). According to Devereux et al. (2008), effectiveness goes beyond purely quantifiable terms and focuses on value for money in attaining transfer objectives rather than on overall economic returns to investment with the ability to compare alternative interventions with different costs

and effects expressed in the same units. In a recent review, cost-effectiveness is the core of value-for-money analyses by allowing a rational choice between programme options based on the relative cost of achieving desired (and quantifiable) outcomes (Bailey, 2014). Cost-effectiveness has also been described as a more robust method than cost-efficiency (Margolies and Hoddinott, 2014) although endorsements are made for both to be done together (Margolies and Hoddinott, 2014).

Figure 2. Typical determinants of cost-efficiency and cost-effectiveness across various transfer modalities (Devereux et al., 2008).

Transfer type	Cost-efficiency of transfer delivery	Cost-effectiveness of transfer impacts
Unconditional cash transfers	<ul style="list-style-type: none"> Overall cost of cash delivery per unit of cash transferred, including scheme management, targeting, registration, secure delivery, M&E etc Exchange rates for externally funded schemes 	<ul style="list-style-type: none"> Targeting effectiveness Price levels of essential goods and services in local markets, especially food Integrity of local markets
Conditional cash transfers	<ul style="list-style-type: none"> As above, plus cost of conditional element (e.g. additional health or education service provision) 	<ul style="list-style-type: none"> As above, plus service provision and impacts associated with conditional element (e.g. improved health or educational achievement)
Food aid	<ul style="list-style-type: none"> Overall cost of food delivery per \$1.00-worth of food delivered, valued at point of delivery Market prices for food at point of delivery 	<ul style="list-style-type: none"> Targeting effectiveness Market conditions affecting sale or consumption of food Health service provision and health hazards affecting nutritional uptake Quality and uptake of education provision (school feeding)
Input subsidies	<ul style="list-style-type: none"> Cost of input delivery per \$1.00-worth of inputs delivered, valued at point of delivery Market prices of inputs at point of delivery 	<ul style="list-style-type: none"> Targeting effectiveness Market conditions affecting sale or farm use of inputs Growing conditions (weather, pests etc) Crop husbandry and storage Market conditions for output
Public works	<ul style="list-style-type: none"> Cost of cash or in-kind payment per \$1.00-worth of payment delivered, valued at point of delivery Market prices for in-kind commodities at point of delivery Cost of establishing and managing works projects 	<ul style="list-style-type: none"> Targeting effectiveness Achievement of impacts of payment in cash or kind Value to local communities and maintenance of assets created

Once data are available, an activity-based costing (ABC) framework helps to organise unit costs generated by the ingredients approach in a manner that is useful for programme management and operation (Fiedler et al., 2008; Puett et al., 2013a, Margolies and Hoddinott, 2014). Rather than allocating costs to traditional accounting categories (e.g. personnel, equipment, transportation, administration, etc.), the ABC approach uses programme activities as an intermediate step to allocate the total costs of a programme to its products and services. This is particularly important for resources that are shared among programme activities or even among different programmes (e.g. salary of management staff, etc.). Even when accounting data is available, it is useful to conduct an activity-based cost analysis to allocate all programme and support costs to the various activities, thereby better understanding programme resource use. A recent paper shows the utility of using ABC methods to calculate modality-specific costs (as opposed to the costs that are common across all transfer modalities) when food, cash or vouchers are provided (Margolies & Hoddinott, 2014). This method has been endorsed as a “comprehensive and nuanced approach” providing the programme design between different modalities are the same (Gentilini, 2014).

While process outcomes result in cost-efficiency ratios - providing information on the relative costs of delivering a programme (Levinson et al., 1999), cost-effectiveness is expressed in terms of programme outcomes, such as in case of malnutrition prevented or case of acute malnutrition recovered. The results of CEAs are typically expressed as a cost-effectiveness ratio (CER), with total programme resources divided by the effectiveness, or improvement in health, nutrition, food security or other outcomes that is achieved by an intervention (Musgrove & Fox-Rushby, 2006). CERs can either be calculated as average cost-effectiveness ratios (ACER), dividing total costs by outcomes to get an average cost per outcome, or incremental cost-effectiveness ratios (ICER). Incremental analyses are used to compare two programmes with the same outcome (e.g. child recovered from acute malnutrition), in terms of the difference in costs and outcomes of the two interventions (Musgrove & Fox-Rushby, 2006). The ICER, calculated as the difference in costs divided by the difference in outcomes of two interventions, represents the amount of resources needed to gain an additional outcome, or unit of effectiveness, by one programme compared to the next most effective alternative (Muennig, 2008).

However, to-date, there is little guidance specific to either cost-efficiency or cost-effectiveness analysis of humanitarian programmes, and CTPs in particular (Bailey, 2014). While some guidance exists on ex-ante analysis, there is no standard cut-off point to discern when an intervention is too costly (Musgrove & Fox-Rushby, 2006). The relative cost-effectiveness of two interventions can be assessed by comparing costs per outcome and choosing the less costly option (Tan-Torres Edejer et al., 2003), but only where costing data, methods and CEA approaches are structured in a way to provide ample opportunity for comparison.

Thus, clear gaps in cost effectiveness evidence exist. There is more literature available on efficiency and costing, but little on cost effectiveness. Additionally, more evidence is needed to include the societal perspective into cost effectiveness to ensure holistic analyses can inform programme decision making and policy change. Lastly, additional evidence to support the development of common standards on collection and analysis of effectiveness data is needed to improve quality of CEA analysis and application.

Cost-Effectiveness of Cash Transfer Interventions

There is clear knowledge and understanding in the humanitarian sector that cash transfers are effective in achieving a variety of objectives. While there are many impact evaluations of CTPs, there is very little concrete data on cost-effectiveness, particularly compared with other types of interventions (Lucas, 2010). Cost-effectiveness calculations are often limited by insufficient data, including relevant costs of programme delivery, and identifying and valuing indirect impacts (Devereux et al., 2008). O'Brien (2014) in a recent Published Oxford Policy Management working paper was looking at cost- efficiency analysis for Kenya and Somalia. The group was not able to conduct cost -effectiveness analysis because it was not possible to quantify the outcome of the programmes. This was due to the implementing agencies offering multiple benefits to beneficiaries, e.g. both cash transfers and another intervention, and no control or comparison group was monitored to isolate the effect of the cash transfer component alone.

Despite many challenges mentioned in the Cash Transfer Programming Good Practice Review (Bailey and Harvey, 2011), as long as agencies make their assumptions and hypotheses explicit, cost-effectiveness should be a useful endeavour. Hedlund et al. (2013) suggest that in order to reduce these challenges, standards need to be implemented across the board, such as deciding on appropriate food consumption outcome variables; including improved livelihoods and other non-food consumption outcomes; deciding on standard reporting, measurement, thresholds, and analysis (including sampling frame); deciding on common standards for categorizing costs and determining how to combine cost and effectiveness in a meaningful and comparable unit (as cited in Bailey, 2014).

A variable that can influence cost-effectiveness is the type of transfer modality used, whether it is through in-kind, voucher, or cash transfer assistance. When compared to in-kind food assistance, cash transfers have consistently been found to be more cost-efficient, due to the fact that cash transfers usually cost less to deliver compared to in-kind aid interventions (Bailey, 2014). As described by Devereux and Mhlanga (2008), cash transfers can be delivered at reasonable cost with administrative efficiency that is higher than food aid interventions and convenience for beneficiaries that could be comparable if local markets are functioning well. However, the overall efficiency of the transfer depends very much on local prices and how much it would have cost aid agencies to deliver similar goods, considering whether such a comparison is even meaningful for multi-sector assistance, given that cash is more flexible (Bailey, 2014).

In regards to cost-effectiveness, while findings on CTPs are generally positive (Hidrobo et al., 2012, Gilligan et al., 2013b, Audsley et al., 2010, Hedlund et al. 2013), there is inconclusive evidence as to whether cash transfers are more or less cost-effective than other intervention types (Lucas, 2010). Bailey (2014) notes with the exception of a small number of studies, that effectiveness is rarely calculated and even where it is calculated, the most efficient approach of implementation is not necessarily the most cost-effective.



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Cost-effectiveness calculations also depend entirely on the objective of the intervention. For example, in a comparison of cash, vouchers and in-kind aid in Ecuador, Hidrobo et al. (2012) found that if the objective of these transfers is simply to improve welfare, cash is preferable, but when looking at increasing calories or dietary diversity, vouchers are the most cost-effective means of doing so, followed by cash. In Ecuador, cash allowed for greater household savings, leading to multi-sectoral outcomes, whereas the conditionality of vouchers directly increased caloric availability and dietary quality, leading to clearer outcomes for food security and nutrition. Meanwhile, when looking at recipient satisfaction as an outcome, beneficiaries were found to prefer and be more satisfied with cash, rather than vouchers, because it gave them greater autonomy of choice and decision-making power (Hidrobo et al., 2012).

It is important to note, however, that the type of transfer is only one factor that can influence cost-effectiveness (White et al., 2013); other variables include differences in programme design and implementation (e.g. transfer value, transfer frequency, time of year implemented, quality of implementation), factors external to the programme (e.g. prices), and differences in the characteristics of recipient households (Bailey, 2014; citing evidence from Hedlund et al., 2013; Hedlund, 2012; Otter and Cortez, 2011; Creti, 2011; Prout et al., 2010; Devereux et al., 2007; Savage and Umar, 2006; Dietz, 2005; and Brandsetter, 2004). According to Son (2008), while many of these factors can positively influence cost-effectiveness of a programme, they may also simultaneously increase the cost per recipient which would reduce the programme's efficiency.

Harvey and Savage (2006) note that it is commonly assumed that CTPs are the most cost-effective options; however, they emphasize that this assumption may be inaccurate, particularly in rural, remote regions with weak markets. The authors suggest that decisions regarding transfer types be made on a case by case basis using careful, context-specific analysis particularly of prices and markets and that programme design should remain adaptable to changing circumstances with contingencies that are sensitive to fluctuations in the prices (Harvey & Savage, 2006). Demand versus supply constraints are important market factors to consider

when looking at the cost-effectiveness of various interventions, and asking the right questions is critical to determining the most cost-effective approach (Handa & Davis, 2006).

Current available evidence is inconclusive as to whether cash transfers are more or less cost-effective than other types of interventions. Additional evidence is needed which is able to isolate cash transfer effects from other complementary interventions effects through control or comparison groups. Additionally, new evidence focusing on appropriate variables to measure impact and change along food consumption, caloric intake, dietary diversity, livelihoods and non-food consumption outcomes, are needed to establish appropriate cost-effectiveness calculations. Lastly the implementation process and conditionality of the cash transfer influence the outcome and impact of a cash transfer. Hence additional attention is needed to fill the gap of evaluating cost effectiveness of implementation process, external factors and beneficiaries' household characteristics.

Cost-Effectiveness of Cash Transfer Interventions for Nutrition Outcomes

In the prevention of acute undernutrition, as stated above, a variety of approaches are needed to improve the nutritional status of children, as causes are multiple and linked to food, health, care practices, gender, water & sanitation, etc. A systematic review (Glassman et al., 2013) found that cash transfers increased antenatal health visits, rates of skilled attendance at birth, delivery at a health facility, and reduced the incidence of low birth weight. But in order to scale up these approaches and propose effective policy changes, cost-effectiveness studies need to be conducted to confirm whether these positive benefits are affordable relative to other intervention options.

The majority of available cost evidence compares cash with food transfers. Literature mainly reports on cost-efficiency results in terms of cost per transfer, rather than accounting for nutrition or food security outcomes as a cost-effectiveness analysis would do. For example, the Ecuador study showed that food rations carry the highest marginal cost per transfer at USD11.50 compared to approximately USD3.00 per transfer for cash and vouchers. While vouchers were considered the most cost-effective option (using simulated effectiveness outcomes) and the most effective in increasing dietary diversity, households reported a preference for cash since it allowed them autonomy in food choice (Hidrobo et al., 2014). Similarly, in Niger, cash and food transfers were delivered at the same frequency, and costs for the food transfer were 15 percent higher (Hoddinott et al., 2013). On the other hand, studies have found that food is more affordable than cash transfers, due to local food price fluctuation in Malawi (Audsley et al., 2010) and economies of scale for imported versus locally procured foods in Swaziland (Devereux et al., 2008).

In Ecuador, a 7-month food assistance programme comparing cash, staple food rations, and food vouchers found a significant increase in Household Dietary Diversity Score (HDDS) (0.4-0.5 point increase) and Food Consumption Score (FCS) (6.1-9.4 point increase) in all 3 interventions relative to a control group (Hidrobo et al.; 2012). In Niger, households receiving a staple food ration had an average FCS that was 4.6 points higher after 6 months of intervention (Hoddinott et al.; 2013).

All of these findings indicate that cash holds potential as a relatively affordable food assistance option, but shows as well that a large gap remains regarding the



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cost-effectiveness of cash transfers in general, and for addressing nutrition outcomes in particular. Evidence gaps on cost effectiveness of different modalities (conditional, unconditional, grants, vouchers) using the same transfer value, as well as looking at the same modality with different transfer values and their impact on nutritional outcomes exist, and efforts should be made to create this evidence to improve policy and decision making.

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Action Against Hunger USA
247 West 37th Street, Floor 10
New York, New York 10018 USA
Tel: +1 (212) 967 7800
Website: www.actionagainsthunger.org/refani

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eyakowenko@actionagainsthunger.org.*