
The impact of cash transfers on social determinants of health and health inequalities in sub-Saharan Africa: a systematic review

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Abstract

Cash transfers (CTs) are now high on the agenda of most governments in low- and middle-income countries. Within the field of health promotion, CTs constitute a healthy public policy initiative as they have the potential to address the social determinants of health (SDoH) and health inequalities. A systematic review was conducted to synthesise the evidence on CTs' impacts on SDoH and health inequalities in sub-Saharan Africa, and to identify the barriers and facilitators of effective CTs. Twenty-one electronic databases and the websites of 14 key organizations were searched in addition to grey literature and hand searching of selected journals for quantitative and qualitative studies on CTs' impacts on SDoH and health outcomes. Out of 182 full texts screened for eligibility, 79 reports that reported findings from 53 studies were included in the final review. The studies were undertaken within 24 CTs comprising 11 unconditional CTs (UCTs), 8 conditional CTs (CCTs) and 5 combined UCTs and CCTs. The review found that CTs can be effective in tackling structural determinants of health such as financial poverty, education, household resilience, child labour, social capital and social cohesion, civic participation, and birth registration. The review further found that CTs modify intermediate determinants such as nutrition, dietary diversity, child deprivation, sexual risk behaviours, teen pregnancy and early marriage. In conjunction with their influence on SDoH, there is moderate evidence from the review that CTs impact on health and quality of life outcomes. The review also found many factors relating to intervention design features, macro-economic stability, household dynamics and community acceptance of programs that could influence the effectiveness of CTs. The external validity of the review findings is strong as the findings are largely consistent with those from Latin America. The findings thus provide useful insights to policy makers and managers and can be used to optimise CTs to reduce health inequalities.

Keywords: Cash transfer programs, social determinants of health, health inequalities, sub-Saharan Africa, systematic review

Key Messages

- CTs have seen an exponential growth in sub-Saharan Africa (SSA) in the last decade with corresponding strengthening of evaluation, but there have been no systematic review of their impact on social determinants of health (SDoH) and health inequalities.
- Evidence from 53 studies covering 24 CTs indicate that CTs can tackle the SDoH in SSA.
- CTs have moderate impact on health and nutritional outcomes and this calls for the provision of supplementary services and behaviour change interventions to optimise their impact.
- The review identified a range of factors that may facilitate or hinder the performance and effectiveness of CTs especially the size of the transfer and irregularity of transfer payment.

Introduction

There is a large body of evidence indicating that tackling the social determinants of health (SDoH) will lead to improved health outcomes and a reduction in health disparities (Marmot *et al.* 2012). In sub-Saharan Africa (SSA), disparities exist within and between countries. Pro-poor strategies focused on poverty reduction, improved education, living conditions, employment, social cohesion and access to health services are key to improving health and addressing health inequalities in SSA (Munodawafa *et al.* 2013). A promising and widely used intervention that could help in this direction is cash transfers (CTs).

CTs are generally targeted at poor households and seek to encourage increased demand for services through an 'income effect' (the change in consumption resulting from the cash payments) and in the case of conditional cash transfers (CCTs), through both an income effect and a 'substitution effect' (the opportunity cost associated with investing in children's human capital). Garcia and Moore (2012) have identified two types of CTs in SSA namely: middle-income CTs and low-income and fragile CTs. The middle-income CTs constitute social assistance transfers which are normally provided by government institutions and domestically funded, with occasional donor support. These are directed to groups most in need and have no definite end-date. Low-income and fragile CTs, however, frequently have a short time frame and intend to graduate beneficiaries from the program. Low-income and fragile CTs are often managed outside government institutions, are fully or partly funded by donors, and typically target specific groups in need prioritized by donor agencies.

CT programs in SSA can be CCTs or unconditional cash transfers (UCTs). Both CCTs and UCTs are largely designed to transfer cash to poor households and other vulnerable groups to stimulate a change in behaviour. By their nature, CCTs are conditional upon beneficiary households adopting certain positive behaviours, including investment in children's education, nutrition and health care (Fiszbein and Schady 2009). CCTs thus constitute a kind of 'social contract' that requires households to take steps to improve their lives and that of their children. The key difference between CCTs and UCTs is that the latter give cash to households with no conditions attached (Baird *et al.* 2013a).

There are marked differences in the design and delivery of CTs between SSA and other parts of the world, especially Latin America where they have been widely used. CTs in SSA are distinguished by their focus on extremely poor and labour-constrained households (those who are unable to work, e.g. the aged and severely disabled) as well as the 'soft' conditions, that is, no penalties for noncompliance and low levels of monitoring due to the costs associated with tracking and enforcement (Davis *et al.* 2012, 2016). The diverse

cultural contexts in SSA also play a key role in shaping their delivery, and the impact that CTs achieve. A high level of community involvement is a feature of CTs in SSA where, in contrast to Latin America, programs rely heavily on communities to help identify the most vulnerable groups to receive the transfers (Garcia and Moore 2012). Similarly, the collectivist cultures in SSA (where people belong to 'in groups') may have implications for the effects that CTs may achieve compared to their effects in individualistic cultural settings. They can either strengthen or weaken social capital and intra-community cohesion in collectivist cultures (Pavanello 2016).

Previous evaluations of CTs in SSA indicate that these programs may influence the wider SDoH, yet there has been no attempt to synthesise this evidence. Previous reviews of CT programs have largely focused on impacts upon health service usage and health outcomes (Lagarde *et al.* 2007; Lucas *et al.* 2008; Adato and Bassett 2009; Gaarder *et al.* 2010; Boccia *et al.* 2011; Ranganathan and Lagarde 2012; Bassani *et al.* 2013; Glassman *et al.* 2013; Pega *et al.* 2013; Owusu-Addo and Cross 2014), HIV (Pettifor *et al.* 2012; Heise *et al.* 2013), nutrition (Leroy *et al.* 2009; Martins *et al.* 2013), and other social outcomes such as education (Baird *et al.* 2013a) and child labour (de Hoop and Rosati 2014). These reviews have given little attention to the impact of CTs upon a wider range of health determinants and their effect on health inequalities. Moreover, existing reviews of the effect of CTs have relied heavily on evidence from Latin America, with limited contextual and programmatic relevance to SSA. Finally, none of the previous reviews have included qualitative studies that have explored the programs' impacts (including the intended and unanticipated impacts), and of the process and mechanisms by which CTs influence SDoH. This systematic review aims to address these gaps by synthesising quantitative and qualitative evidence on the contribution of CTs in addressing the wider SDoH, and their effects on health and health inequalities in SSA.

Methods

Details of the review methods have been published in the review protocol (Owusu-Addo *et al.* 2016b), which was registered with PROSPERO (registration number: CRD42015025015). The review methods are summarised below.

Review framework and search strategy

The SDoH conceptual framework developed by WHO Commission on SDoH (Commission on Social Determinants of Health 2008) was used to identify the structural determinants of health (the social, economic and political factors which generate and maintain socioeconomic position) and intermediate determinants of health (factors that mediate the effect of socioeconomic position on health

including material circumstances, psychosocial circumstances, behavioural factors and access to health care) which CTs could impact to improve health.

Twenty-one electronic databases were searched and, in addition to this, selected journals were hand searched. The websites of 14 organizations known to be active in the field were searched as well as the on-line resources of universities in Africa, to find technical reports, working papers and other grey literature. Google Scholar and Scirus Internet searches were also carried out. All relevant records were downloaded into the review management software EPPI reviewer.

Inclusion and exclusion criteria

Both quantitative and qualitative research was considered. For quantitative evidence, studies that investigated the effects of CTs using experimental and quasi-experimental study designs were included. Eligible qualitative studies comprised stand-alone investigations of CTs' impacts, including those reporting the perceptions of beneficiaries and/or stakeholders, and those embedded in included quantitative studies. We did not find any process evaluation studies as we had planned in the protocol.

The population of focus in this review was those targeted by either CCT or UCT programs. The review included CCTs and UCTs which aimed to reduce poverty and/or vulnerability. CTs for assistance in humanitarian disasters were excluded as they are often one-time and address different causal pathways. Primary outcomes were not specified a priori, and studies were included if they reported at least one of the following: financial poverty, employment, education, nutrition, empowerment, social cohesion or social capital, child labour, civic participation, living conditions (e.g. housing) and productive capital. The secondary outcomes examined were health status and quality of life.

Selection of studies, data extraction and quality assessment

One independent author screened the full reports to determine their eligibility and in case of uncertainty, consulted a second author to reach consensus on those to be included. The data extraction form recommended by the Cochrane Public Health Group (Cochrane Public Health Group 2011) was adapted for the extraction of data from quantitative studies. The Joana Briggs Institute's (JBI 2011) data extraction form for qualitative studies was adapted for extracting data from qualitative studies. Risk of bias in quantitative studies was assessed using the Cochrane Collaboration risk of bias tool while the Joana Briggs Institute's Qualitative Assessment and Review Instrument (JBI-QARI) was used to assess dependability of qualitative studies (i.e. suitability of the methodology to answer research questions and extent to which the methods align with the chosen methodology). Included studies were quality assessed by two independent reviewers with disagreements being resolved by a third reviewer. The results of the quality assessment were used as part of the criteria in rating the quality of evidence.

Data synthesis

A meta-analysis was not feasible due to the diversity of population groups, outcomes and measurements, as well as the difficulty of obtaining additional information from authors. Narrative synthesis was conducted following the approach recommended by Popay *et al.* (2006). For each outcome domain, a vote count was conducted to determine the number of studies reporting differing directions and magnitudes of effect. We had anticipated that studies would report the effects of CTs on health inequalities and we planned to use

harvest plots to visually summarise these. However, this was not possible as we did not find any study which focussed on health inequalities. We therefore provided a narrative account of CT's potential impact on health inequalities using the available sub-group analyses results provided in the included studies. Thematic synthesis of qualitative studies was carried out to combine the evidence using the approach proposed by Thomas and Harden (2008). GRADE was used to assess the quality of body of evidence from all quantitative studies within each broad outcome domain. For qualitative studies, the ConQual approach developed by Munn *et al.* (2014) was used to assess the findings based on dependability and credibility.

Results

Search results and study of types

The literature search yielded a total of 28 057 references of which 182 full-text reports were screened for eligibility. Seventy-nine reports that present results from 53 studies were included in the final review (Figure 1). The included reports comprised of journal articles (41), technical reports (22), working papers (15) and a PhD thesis (1). As shown in Table 1, of the 53 studies included in the review, 3 were randomized controlled trials (RCTs), 22 cluster-RCTs (c-RCT), 8 were quasi-experiments and 20 were qualitative studies. Supplementary Data S1 provides details of the characteristics of included studies.

Context and description of CT interventions

The studies were undertaken within 24 CTs comprising of 11 UCTs, 8 CCTs and 5 combined UCTs and CCTs (Table 1). Of the 24 CTs, 13 were large-scale (government-led programs) while 11 were small-scale (often pilot projects). Three each of the CTs were implemented in Malawi, Uganda and Zambia; two each in Kenya, South Africa, Tanzania and Zimbabwe; and one each in Burkina Faso, Congo, Ghana, Lesotho, Mozambique, Niger and Nigeria. The CTs were targeted at poor or labour constrained households with orphans or vulnerable children within a specified age category and/or vulnerable individuals such as people at risk of HIV/STIs, pregnant women, the elderly or people with disability.

The transfer size and frequency of payment varied according to the program. In the case of CCTs, the conditions included school attendance, use of health services, use of nutrition services, registration for health insurance, HIV/STI prevention and birth registration. These conditions were rarely monitored and therefore could be described as 'soft' conditions with no punitive measures. In most of the government-led CT programs, the community played a significant role in targeting program beneficiaries either by compiling the initial eligibility list (e.g. Ghana, Kenya, Malawi) or screening final lists that had been compiled by program managers (e.g. Lesotho, Zimbabwe). Further details of the CTs included in the review are summarised in Supplementary Data S2.

Quality assessment

Risk of bias

Figure 2 presents a summary of risk of bias for each domain across all quantitative studies. There was a low risk of selection bias in most of the RCT/c-RCTs, with randomisation sequence generation undertaken by lottery, computer generated numbers, tossing of coins or block randomization methods. Allocation concealment was further ensured by masking households or individuals at baseline in

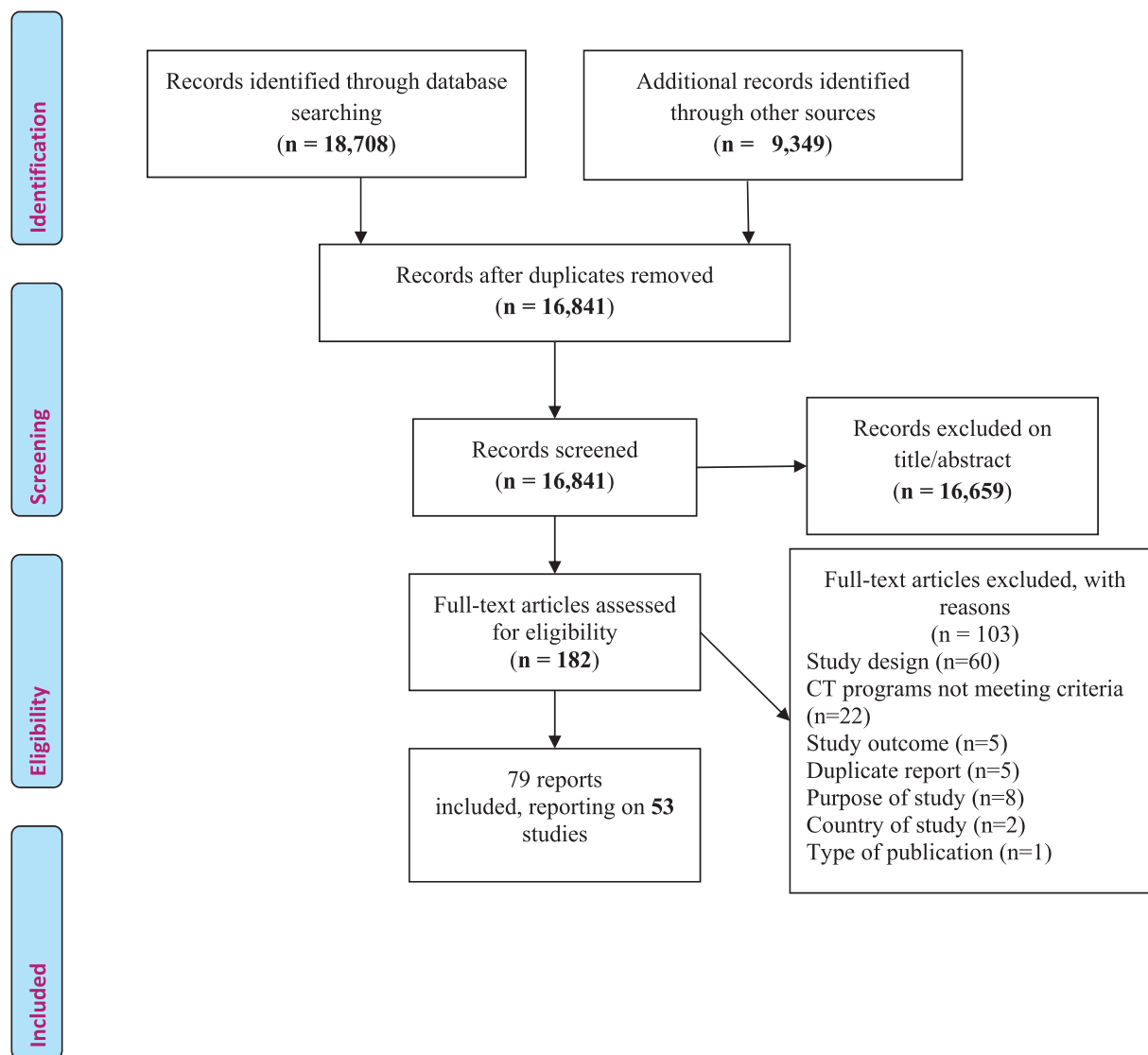


Figure 1. PRISMA flow diagram

most studies. Most of the quasi-experimental studies used matching techniques which ensured that covariates in treatment and control groups were balanced and thus controlled for selection bias. There was however a high risk of performance bias in the RCT/c-RCTs, but it must be noted that the nature of CTs is such that it is very often difficult to mask participants after allocation into the intervention. There was also a high risk of detection bias as outcome assessors and data analysts were largely unblinded in most studies. Other risks of bias included the use of self-report measures rather than objective measures, which are subject to recall and other biases.

Quality appraisal of qualitative studies

Figure 3 presents a summary of the dependability of each included qualitative study. The major dependability issues were epistemological and methodological congruence as most of the studies did not state their philosophical underpinnings. Similarly, none of the included studies provided a description of reflexivity, a quality indicator concerning how knowledge is constructed and the basis upon which validity is determined. However, most studies had high dependability in relation to appropriateness of methodology, data

collection methods, thick description and congruence between conclusions and findings.

Findings on SDoH

The included studies reported the impact of CTs on 12 domains of SDoH. These are synthesized in Table 2 (quantitative findings) and in Table 3 (qualitative findings), and in the text below. Details of program effects (quantitative) are provided in Supplementary Data S3.

Financial poverty

Eight studies measured program impact on poverty headcount (measuring the proportion of the population that is poor), poverty gap (measuring the extent of poverty) and poverty severity (measuring inequality among poor household) and found consistent evidence across five countries (Kenya, Lesotho, Malawi, Uganda and Zambia) indicating that CTs reduce short-term poverty. For instance, in Zambia, the American Institutes for Research's (AIR) (2015a) study found that the MCTG reduced poverty headcount by 9 percentage points (pp), poverty gap by 12 pp and poverty severity by 11 pp, while the CGP reduced poverty

Table 1. Characteristics of included studies/nature of CT programs

Country	Program	Type of CT	CT design	Study references	Study design
Burkina Faso	Nahouri Cash Transfers Pilot Project (NCTPP)	CCT/UCT	Small scale	Akresh <i>et al.</i> (2012) Akresh <i>et al.</i> (2013) Akresh <i>et al.</i> (2016)	cRCT
DR Congo	Mother-to-child HIV Transmission (PMTCT) Study	CCT	Small scale	Yotebieng <i>et al.</i> (2016)	RCT
Ghana	Livelihood Empowerment against Poverty (LEAP)	CCT/UCT	Large scale	Handa <i>et al.</i> (2014b) de Groot <i>et al.</i> (2015) Mochiah <i>et al.</i> (2014) Tiwari <i>et al.</i> (2016a) OPM (2013a) Roelen <i>et al.</i> (2015) Oduro (2015) Owusu-Addo (2016)	QE Qualitative
Kenya	Cash Transfer for Orphans and Vulnerable Children Program (CT-OVC)	UCT	Large scale	Ward <i>et al.</i> (2010) The Kenya CT-OVC Evaluation Team (2012a) The Kenya CT-OVC Evaluation Team (2012b) Asfaw <i>et al.</i> (2014) Handa <i>et al.</i> (2014a) Kilburn <i>et al.</i> (2016a) Handa <i>et al.</i> (2016c) Handa <i>et al.</i> (2015) Tiwari <i>et al.</i> (2016b) Onyango-Ouma and Samuels (2012) Jones and Samuels (2015) OPM (2014a)	cRCT cRCT
Kenya	Hunger Safety Net Program (HSNP)	UCT	Large scale	Merttens <i>et al.</i> (2013)	cRCT
Lesotho	Child Grant Program (CGP)	UCT	Large scale	Pellerano <i>et al.</i> (2014) Tiwari <i>et al.</i> (2016c) Daidone <i>et al.</i> (2014b) OPM (2014b)	cRCT Qualitative
Malawi	Social Cash Transfer Program (SCTP)	UCT	Large scale	Miller <i>et al.</i> (2011) Miller and Tsoka (2012a) Covarrubias <i>et al.</i> (2012) Luseno (2012) Luseno <i>et al.</i> (2014) Malawi SCTP Evaluation Team (2015) Kilburn <i>et al.</i> (2016b) Miller <i>et al.</i> (2010) Miller and Tsoka (2012b) OPM (2014c)	cRCT cRCT Qualitative
Malawi	The Zomba Cash Transfer Program (ZCTP)	CCT/UCT	Small scale	Baird <i>et al.</i> (2010, 2011, 2012, 2013b, c, 2015)	cRCT
Malawi	Sexual Health Incentive Study (SHIS)	CCT	Small scale	Kohler and Thornton (2012) Thornton (2008)	cRCT
Mozambique	Basic Social Subsidy Program (BSSP)	UCT	Large scale	Selvester <i>et al.</i> (2012)	Qualitative
Niger	A Prospective Nutrition Intervention Study (NIS)	CCT/UCT	Small scale	Langendorf <i>et al.</i> (2014)	RCT
Nigeria	Cash Transfer Pilot Programme (CCT Pilot)	CCT	Small scale	Okoli <i>et al.</i> (2014)	QE
South Africa	Child Support Grant (CSG) & Foster Child Grant (FCG)	UCT	Large scale	Cluver <i>et al.</i> (2013) Eyal and Woolard (2014) Heinrich <i>et al.</i> (2017) DSD <i>et al.</i> (2011)	QE QE QE Qualitative

(continued)

Table 1. (continued)

Country	Program	Type of CT	CT design	Study references	Study design
				Plageron <i>et al.</i> (2012) Zembe-Mkabile <i>et al.</i> (2015) Adato <i>et al.</i> (2016) Plageron <i>et al.</i> (2011) Pettifor <i>et al.</i> (2016)	
South Africa	HIV Prevention Trials Network (HPTN)	CCT	Small scale		RCT
Tanzania	Tanzania Social Action Fund (TSAF)	CCT	Large scale	Evans <i>et al.</i> (2014)	cRCT
Tanzania	Rewarding Sexually Transmitted Infection Prevention and Control in Tanzania (RESPECT)	CCT	Small scale	de Walque (2014)	cRCT
Uganda	World Food Program (WFP) Karamoja Cash Transfer Pilot	CCT	Small scale	Gilligan <i>et al.</i> (2013)	cRCT
SAGE (Uganda)	Social Assistance Grants for Empowerment (SAGE)	UCT	Large scale	Merttens <i>et al.</i> (2016) Bukuluki and Watson (2012)	QE Qualitative
Uganda	Antenatal Care Utilisation Study (ACUS)	CCT	Small scale	Kahn <i>et al.</i> (2015)	cRCT
Zambia	Child Grant Program (CGP)	UCT	Large scale	Daidone <i>et al.</i> (2014a), AIR (2015b), Handa <i>et al.</i> (2015, 2016a, e), Tiwari <i>et al.</i> (2016d), Natali <i>et al.</i> (2016), Bonilla <i>et al.</i> (2016)	cRCT
Zambia	Multiple Category Targeting Grant (MCTG)	UCT	Large scale	Handa <i>et al.</i> (2016a) AIR (2015a)	cRCT
Zambia	Monze Cash Transfer (MCT)	UCT	Small scale	Seidenfeld and Handa (2011)	QE
Zimbabwe	Community-led Cash Transfer Program (CCTP)	CCT/UCT	Small scale	Robertson <i>et al.</i> (2013) Fenton <i>et al.</i> (2016) Skovdal <i>et al.</i> (2013)	cRCT Qualitative
Zimbabwe	Harmonised Social Cash Transfer (HSCT)	UCT	Large scale	AIR (2014) Bhalla <i>et al.</i> (2016) OPM (2013b)	QE Qualitative

headcount, poverty gap and poverty severity by 10 pp, 10 pp and 8 pp, respectively (AIR 2015b).

Nine studies reported program effects on total household consumption in seven countries (Ghana, Kenya, Lesotho, Malawi, Uganda, Zambia and Zimbabwe). With the exception of the Ghanaian program which had no impact on household consumption, eight other programs significantly increased total household consumption. Evidence from the nine studies further showed that CT programs had significant increases in food expenditure. Ghana's program however, significantly increased household spending on non-consumption items (e.g. school supplies such as books and pens) rather than food (Handa *et al.* 2014b).

Findings from qualitative studies lend support to CTs' impact in reducing financial poverty. We identified eleven qualitative studies which showed that despite differences in design, CTs contributed to child poverty reduction by raising children's consumption directly (see Table 3). Other financial poverty related outcomes included resilience, productive capital and participation in non-farm enterprises (NFE) which are further examined below.

Resilience

The majority of the programs were evaluated regarding their impacts on household and individual resilience, conceptualised as the ability to

manage and withstand shocks. The indicators commonly used across the studies were savings and borrowings and/or being out of debt.

Of six studies that examined seven CT programs' impacts on savings, five found significant increases in savings ranging from 3 to 24 pp (in Ghana, Kenya, Tanzania, Uganda and Zambia). There was only limited qualitative evidence that Mozambique's PSSB and Uganda's SCG improved beneficiaries' saving practices (Bukuluki and Watson 2012; Selvester *et al.* 2012).

The 10 studies that examined 11 CT programs' impacts on borrowing showed mixed results. The findings indicated that households either used CTs to pay off their debt or to increase their access to credit. Two programs (Ghana's LEAP and Zambia's CGP) were found to significantly reduce the original debt levels of beneficiary households by 23.4 and 1.7 pp, respectively (Daidone *et al.* 2014a; Handa *et al.* 2014b). Both Zambia's MCTG and Zimbabwe's HSCT significantly reduced household's exposure to debt (AIR 2014, 2011a). Kenya's HSNP significantly increased beneficiary households' capacity to borrow by 9.7 pp (Merttens *et al.* 2013).

Seven qualitative studies (in Ghana, Lesotho, Kenya, Malawi, Mozambique, South Africa, Uganda and Zimbabwe) consistently reported that the programs had an impact on beneficiaries' capacity to borrow, largely due to their increased creditworthiness (Bukuluki and Watson 2012; Selvester *et al.* 2012; Oxford Policy Management

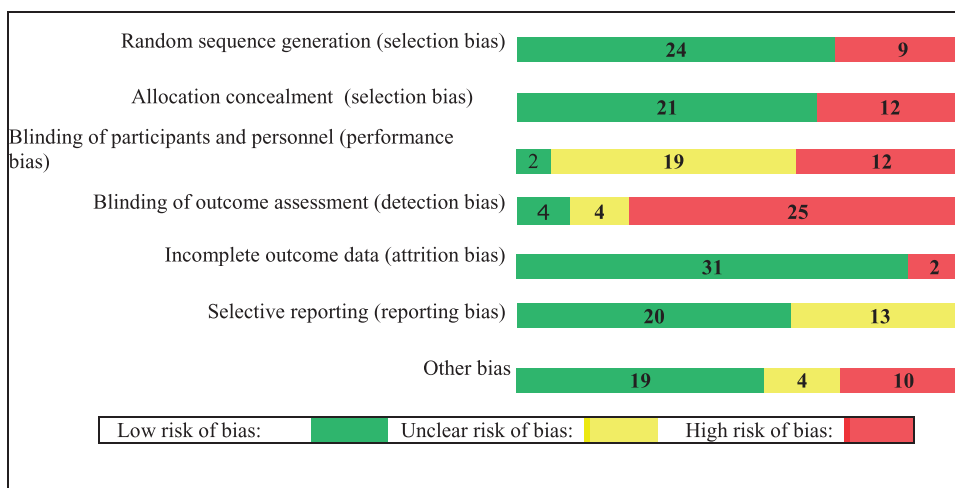


Figure 2. 'Risk of bias' graph: review authors' judgements about each 'risk of bias' item across all included studies

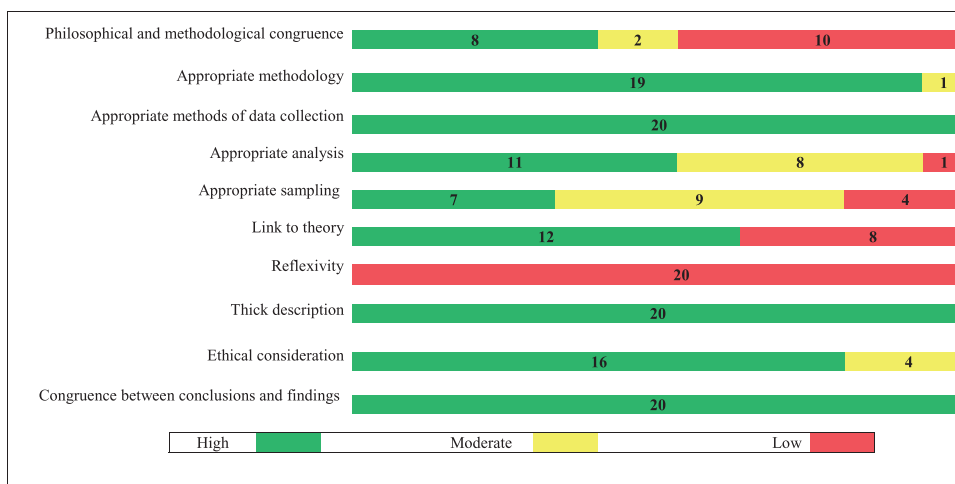


Figure 3. Review authors' judgements about the dependability of each included qualitative study

(OPM) 2013b; Zembe-Mkabile *et al.* 2015). In most cases, beneficiaries noted that they felt 'safe' to borrow money or purchase food and other household items on credit from the local market due to their ability to pay back upon receipt of the CTs. To mitigate the risk of indebtedness, lenders were said to often directly link the amount of loans to the transfer size and repayment dates to the payment schedule of the cash transfer (Selvester *et al.* 2012).

Productive capital

The indicators commonly used across the studies for productive capital were acquisition of productive assets (agricultural assets and inputs) and ownership of livestock.

Eight studies covering six countries examined nine CT programs' impact on ownership of agricultural assets and reported mixed findings. In six of the programs (Uganda's CSG and VFSG, Malawi's SCTP, Zambia's CGP and MCTG, and Zimbabwe's HSCT), there were significant increases in households ownership of agricultural assets (with impacts ranging from 3.6 to 32.2 pp, varying across asset and program). In three of the programs (Lesotho's CGP, Kenya's HSNP and Zambia's MCT) there was no significant impact on ownership of agricultural assets. We did not find any qualitative studies reporting on CTs' impact on agricultural assets.

With the exception of the Kenyan program, five programs (in Ghana, Lesotho and Zambia) significantly increased household spending on agricultural inputs (with impacts ranging from 3.2 to 17.7 pp). The agricultural inputs that households acquired or spent funds on included seeds, fertilizer, pesticides and hired labour. We found six qualitative studies which showed that CTs increased households' access to agricultural inputs, primarily the use of fertilizer, seeds and hiring of labour across five countries (Ghana, Lesotho, Malawi, Kenya and Uganda).

Of 12 CT programs that have been studied with regard to their impacts upon livestock ownership, 11 reported significant increases in household ownership of livestock (with impacts ranging from 1.5 to 59.3 pp). Four qualitative studies (in Ghana, Kenya, Malawi and Zimbabwe) confirmed CTs impact on household ownership of livestock, suggesting that investment in livestock was a risk mitigation strategy that allowed households to build a stock of assets that they could rely on during lean seasons and upon closure or graduation from the CT (OPM 2013c).

Participation in NFE

Programs that monitored their impact on household ownership of NFE showed mixed findings. For instance, the Zambian CGP

Table 2. Summary of findings (quantitative studies) with GRADE

Outcome domain	Outcome indicator	Number of studies	GRADE ^a
<i>Social determinants of health</i>			
Financial poverty	Poverty headcount, poverty gap and poverty severity	8	⊕⊕⊕⊕ Moderate
	Total household consumption expenditure	12	⊕⊕⊕⊕ High
	Household food expenditure	14	⊕⊕⊕⊕ High
Resilience	Savings behaviour	7	⊕⊕⊕⊕ Moderate
	Borrowing/paying off debt	12	⊕⊕⊕⊕ High
Productive capital	Agricultural assets	10	⊕⊕⊕⊕ Moderate
	Agricultural inputs	7	⊕⊕⊕⊕ Moderate
	Livestock ownership	16	⊕⊕⊕⊕ High
Participation in non-farm enterprises	Ownership of non-farm enterprise	10	⊕⊕⊕⊕ Low
Education	School enrolment	19	⊕⊕⊕⊕ High
	School attendance	12	⊕⊕⊕⊕ Moderate
	Absenteeism	11	⊕⊕⊕⊕ Moderate
	Learning outcomes	4	⊕⊕⊕⊕ Low
Health-care utilisation	Preventive/curative care	12	⊕⊕⊕⊕ Moderate
	Immunization	2	⊕⊕⊕⊕ Low
	Antenatal visits	6	⊕⊕⊕⊕ Moderate
	Skilled delivery	6	⊕⊕⊕⊕ Moderate
Nutrition	Food security	9	⊕⊕⊕⊕ High
	Dietary diversity	12	⊕⊕⊕⊕ High
Employment	Adult labour force participation	8	⊕⊕⊕⊕ Low
Child labour	Child labour	15	⊕⊕⊕⊕ Moderate
	Child labour intensity	11	⊕⊕⊕⊕ High
Housing and living environment	Housing improvement Changes in living environment	5	⊕⊕⊕⊕ Low
Birth registration	Birth certificate acquisition	5	⊕⊕⊕⊕ Moderate
Child deprivation	Material wellbeing	6	⊕⊕⊕⊕ High
Social capital	Social cohesion	3	⊕⊕⊕⊕ Moderate
Civic participation	Community involvement	2	⊕⊕⊕⊕ Moderate
Empowerment	Women's decision-making power	7	⊕⊕⊕⊕ Low
	Early marriage	7	⊕⊕⊕⊕ Moderate
	Adolescent pregnancy	9	⊕⊕⊕⊕ High
<i>Health and quality of life</i>			
Physical health/morbidity	Child health	8	⊕⊕⊕⊕ High
	HIV/STI	3	⊕⊕⊕⊕ Moderate
Child anthropometry/nutritional status	Underweight	10	⊕⊕⊕⊕ Low
	Wasting	8	⊕⊕⊕⊕ Low
	Stunting	9	⊕⊕⊕⊕ Low
Subjective wellbeing	Mental health	8	⊕⊕⊕⊕ Moderate
Sexual behaviour	Sexual debut (adolescents)	12	⊕⊕⊕⊕ Moderate
	Multiple partners (adolescents)	7	⊕⊕⊕⊕ Moderate

^aGRADE Working Group grades of evidence: high quality, further research is very unlikely to change our confidence in the estimate of effect; moderate quality, further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate; low quality, further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate; very low quality, we are very uncertain about the estimate.

showed consistent positive effects at 24, 36 and 48 months with 16.6, 14.6 and 13 pp increases in participation in NFEs, respectively. The impacts were higher for females than males (Daidone *et al.* 2014a; AIR, 2015b; Natali *et al.* 2016). Five other programs (in Lesotho, Burkina Faso, Kenya, Malawi and Zambia's MCTG) had no impact on beneficiary households' ownership of or participation in NFE.

While the majority of the quantitative studies showed no program effect on NFE, five qualitative studies (in Ghana, Kenya, Malawi, Zimbabwe) revealed that beneficiary households were actively engaged in NFE, primarily petty trading and provision of services (OPM 2013a, 2014b, c). These studies showed that household engagement in NFE was more of a livelihood diversification strategy to boost household income. While the sustainability of these businesses could not be guaranteed as the money accrued from the business was often not reinvested into the business, caregivers were said

to have used part of the CTs as start-up capital for small-scale businesses (OPM 2013a).

Education

The review identified 16 studies which have examined CT programs' impact on education using 4 core indicators: school enrolment, school attendance, absenteeism and learning outcomes.

School enrolment was measured in 12 programs which largely showed positive outcomes with effect sizes ranging from a low of 0.4 pp in Ghana (Handa *et al.* 2014b) to 44 pp in Malawi's ZCTP (Baird *et al.* 2010). Positive impacts were however, largely found at the secondary school level as compared to the primary school level. For instance, Kenya's CT-OVC significantly increased secondary school enrolment by 3 pp compared with 0.5 pp at the primary school level (Kenya CT-OVC Evaluation Team 2012a). A similar

Table 3. Themes and subthemes identified in qualitative synthesis

Organizing theme	Basic theme	Study references	Illustrative quotes	ConQual ^a
<i>Social determinants of health</i>				
Child deprivation	Material deprivation	Adato <i>et al.</i> (2016), Miller <i>et al.</i> (2010), Zembe-Mkabile <i>et al.</i> (2015), DSD <i>et al.</i> (2011), Jones and Samuels (2015), Owusu-Addo (2016)	<p><i>They need uniforms like any other pupils at school. If she does not have warm clothes, socks to wear and is always laughed at by other pupils she feels isolated and then decides not to go to school (Adato <i>et al.</i> 2016).</i></p> <p><i>It can be very embarrassing for a child to be labelled as poor because they did not pay for their school fees. It also exposes the whole family. Such public humiliation is not good because it can make the child not reach his/her self-esteem (Skovdal <i>et al.</i> 2013).</i></p>	⊕⊕⊕⊕ High
Child poverty reduction	Children's consumption	Zembe-Mkabile <i>et al.</i> (2015), OPM (2013a, b, 2014a, b, c), Adato <i>et al.</i> (2016), Zembe-Mkabile <i>et al.</i> (2015), Skovdal <i>et al.</i> (2013)	<p><i>... they (CSGs) have made a huge difference because they eat, I clothe them, and things that are wanted at school, they come and say and it then gets done for them (Zembe-Mkabile <i>et al.</i> 2015).</i></p> <p><i>Before CGP life was worse but now we are able to buy food, school uniforms and clothes for our children (OPM 2014b).</i></p> <p><i>My child is 14 years old, he sometimes asks for it [cash grant], and if he sees something at the shop he will say: 'Mom, don't forget that the 1st is pay day, there is something at the shops and I need it, so put me on the budget.' If I say: 'I don't have money', he will tell me: 'You will use my CSG money' (DSD <i>et al.</i> 2011).</i></p>	⊕⊕⊕⊕ High
Education	School attendance School enrolment	Jones and Samuels (2015), DSD <i>et al.</i> (2011), Miller <i>et al.</i> (2010, 2012a), OPM (2013a, b, 2014a, b, c), Owusu-Addo (2016), Roelen <i>et al.</i> (2015), Skovdal <i>et al.</i> (2013), Bukuluki and Watson (2012)	<p><i>Yes, yes, I can say that the community has really benefited so much and we are seeing a big change in the community. Caregivers have been able to foster more orphans in their families [...] and I can say that enrolment in schools has been high, retention of OVC in schools has been high (Onyango-Ouma and Samuels, 2012).</i></p> <p><i>...before children were not going to school, they would keep getting chased out and would eventually get discouraged... now their shoes and rags are replaced by good clothes... (OPM 2014a).</i></p>	⊕⊕⊕⊕ High
	Absenteeism	Jones and Samuels (2015), Miller and Tsoka 2012b, Skovdal <i>et al.</i> (2013)	<p><i>Before this programme, many children were absent from school. But now this problem is declining so they are helped (Jones and Samuels 2015).</i></p> <p><i>They used to miss school very often but they now have those needs and miss no days [Male, 42] (Miller and Tsoka 2012b).</i></p>	⊕⊕⊕⊖ Moderate
Health-care utilisation	Meet direct/indirect educational cost			
	Alleviate financial barriers to access health care	Owusu-Addo (2016), DSD <i>et al.</i> (2011), Miller (2010), Miller and Tsoka 2012b, OPM (2014a), Roelen <i>et al.</i> (2015), Skovdal <i>et al.</i> (2013), Bukuluki and Watson (2012)	<p><i>When the money came, I went and made a health insurance card for the children. Now I can take them to the hospital when they are sick. With the money too, I buy medicine for them and take care of their health needs (Owusu-Addo 2016).</i></p> <p><i>Children are vaccinated in greater numbers. Before many children were not brought to the health clinic because parents said they were in the apostolic sector (Skovdal <i>et al.</i> 2013).</i></p>	⊕⊕⊕⊖ Moderate
Birth registration	Birth certificate	Skovdal <i>et al.</i> (2013), DSD <i>et al.</i> (2011), OPM (2014a)	<p><i>In the past years it was not possible to get a birth certificate when you give birth, but now it is possible to get it straight from the hospital (DSD <i>et al.</i> 2011).</i></p> <p><i>we force them to obtain birth certificates because of their importance for identity purposes, for exams, for legal protection, and to ascertain origin in cases of familial dispute. Certificates would also help OVC to enrol on other government programmes in the future (OPM 2014a).</i></p>	⊕⊕⊖⊖ Low

(continued)

Table 3. (continued)

Organizing theme	Basic theme	Study references	Illustrative quotes	ConQual ^a
Sexual behaviour	Reduce the risk of age-disparate sex	Adato <i>et al.</i> (2016), DSD <i>et al.</i> (2011), Miller (2010)	<i>I think this CSG may have reduced these risky behaviours because if there is money, there is food, there is no need for them to go around and get food from friends because that is where they experience sexual abuse and use drugs (DSD et al. 2011).</i>	⊕⊕⊕⊖ Moderate
	Reduce the risk of transactional sex			
	Risky sexual behaviour			
Empowerment	Women's decision-making power	OPM (2013a, b, 2014a, b)	<i>The income in the household belongs to the man. He is the main provider. You the woman belong to him, so the man does what he likes (OPM 2013a). Women are the ones responsible for the money [CGP] and we are happy with the way they are using it. . . I just show my partner the money and he will just tell me to buy whatever is needed in the family (OPM 2014b).</i>	⊕⊕⊖⊖ Low
Social capital and social cohesion	Improved security	Jones and Samuels (2015), Miller (2010), Onyango-Ouma and Samuels (2012)	<i>Before the CT began, many OVCS didn't use to go to school but these days they can. It has also enhanced security in the village—these days there are no thefts because the children who used to steal are now in school (Jones and Samuels 2015). The amount of violence in recipient households has been reduced. Before the transfer started, spouses used to disagree a lot over whether to send their children to school or to send them to go and do piece works. But now, since they are receiving this transfer, they just agree to send the children to school and use this transfer money to buy household necessities such as food and soap (female, age 15) (Miller 2010).</i>	⊕⊕⊖⊖ Low
	Sense of belonging	Miller and Tsoka (2012b), Oduro (2015), OPM (2013b), Skovdal <i>et al.</i> (2013), Miller (2010), Onyango-Ouma and Samuels (2012), Bukuluki and Watson (2012), Selvester <i>et al.</i> (2012)	<i>They now see us as real people with worth. . . we are now their kings [business people] (OPM 2013b). It brought more social cohesion because some people used to suffer on their own. They did not socialize with other people because they were poor but with the coming of the programme everyone is working together, people are now interacting with everyone (Skovdal et al. 2013).</i>	⊕⊕⊕⊕ High
	Enhanced social status		<i>My social relations with my friends have become stronger because once I receive this money, my friends come here and we share good moments together. My elder son, who collects this money on my behalf, has become the most humble because he knows that he will always receive something from me on pay days (Bukuluki and Watson 2012).</i>	
	State-citizen 'social contract'	Oduro (2015), Plagerson <i>et al.</i> (2012)	<i>The ID card represents a symbol of hope that beneficiaries are entitled to something. It gives them the power to prove that they are true beneficiaries and can access what is due them (Oduro 2015). I felt very happy because I have a house of my own and my name is known in the big offices in Pretoria (Plagerson et al. 2012).</i>	⊕⊕⊖⊖ Low
Jealousy, tension and erosion of informal support	Oduro (2015), OPM (2013b, 2014a, b), Miller and Tsoka (2012b), Onyango-Ouma and Samuels (2012),	<i>Why do you ask me for salt or a matchbox, why? Yet you are okay, you laugh at me, you laugh at my plight, stop insulting me just because you get the money and I don't (OPM 2014a). There are some. . . I call them conflicts. . . It has even caused conflict at school, with the caregiver</i>	⊕⊕⊕⊖ Moderate	

(continued)

Table 3. (continued)

Organizing theme	Basic theme	Study references	Illustrative quotes	ConQual ^a
		Bukuluki and Watson (2012)	<i>not ready even to come to discuss matters affecting the child. At home they are at loggerheads because of the money (Onyango-Ouma and Samuels 2012).</i>	
	Social acceptability	Skovdal <i>et al.</i> (2013)	<i>You may be concerned about your neighbour's child. You might feel pity, and want them to go to school, but cannot help financially. Then if someone comes to help the family, you become happy (Skovdal <i>et al.</i> 2013).</i>	⊕⊕⊕⊕ Low
	Networks/ associations Civic engagement Reciprocity	Miller (2010); Oduro (2015); OPM (2013a, b, 2014a, b, c), Zembe-Mkabile <i>et al.</i> (2015); Onyango-Ouma and Samuels (2012), Bukuluki and Watson (2012)	<i>... for the first time I felt I am also a Ghanaian. I am 65 years old and this is the time I have realised that I am also remembered. Although the amount is not enough, I feel my heart is at peace because the government has remembered me as a Ghanaian (Oduro 2015).</i> <i>... It also brings re-union among the elderly – they will meet and talk and socialise. The first payment was like an elders' convention. . . They would ask each other: 'you mean you are still alive? What about the sickness?' This meeting means more to them than just money (Bukuluki and Watson 2012).</i>	⊕⊕⊕⊕ High
Nutrition	Food security	Miller (2010, 2012a), OPM (2013a, b, 2014a, b, c), Owusu-Addo (2016), Roelen <i>et al.</i> (2015), Bukuluki and Watson (2012), Selvester <i>et al.</i> (2012)	<i>We are not starving anymore because they buy us food everyday (female, unknown age).; We are happy now. . . in the past we were not eating in the afternoon and sometimes in the evening. Now we are eating three times a day. . . (female, age 10) (Miller 2010).</i> <i>We are now eating nutritious food like milk. I take breakfast every morning. I am better off than before; and we are gaining weight. Food is now available in the home (Miller 2012).</i> <i>I now feel proud as I have enough food again (OPM 2014c).</i>	⊕⊕⊕⊕ High
	Food intake	Jones and Samuels (2015), Miller (2010, 2012a), OPM (2013a, b, 2014a, b, c), Owusu-Addo (2016), Roelen <i>et al.</i> (2015), Zembe-Mkabile <i>et al.</i> (2015)	<i>Previously children were sent to school without breakfast but now they can afford to give them breakfast (Jones and Samuels 2015).</i> <i>LEAP has allowed for improvements and changes in the diets of beneficiaries. Beneficiaries now are able to cook with good magi and more fish. There is also more variation of foods we eat . . . (OPM 2013a).</i> <i>Now families don't sleep without meals, they can eat twice a day. . . they used to overwork to make ends meet and now they don't get exhausted. . . (OPM 2014a).</i>	⊕⊕⊕⊕ High
Productive capacity	Agricultural inputs	Miller (2010), OPM (2013a, b), 2014a, c), Bukuluki and Watson (2012)	<i>Cash transfers have helped recipients to buy fertilizer so that they can apply it to tobacco during the coming season (female, age 12); People are buying seeds with the transfers. There are some that have groundnut seeds ready for planting (Miller 2010).</i> <i>In one way or the other, each of us is able to either hire an additional labourer and other farm inputs such as fertiliser and chemicals (OPM 2013a).</i>	⊕⊕⊕⊕ Moderate
Productive assets	Livestock ownership	Miller (2010, 2012a), OPM (2013a, b, 2014a, c)	<i>In the past, we had no livestock and food, but now they have bought goats and chickens, and maize garin (Miller 2010).</i> <i>We already fed before LEAP no matter the condition. We have, however, eased the excessive pressure of meeting the other basic expenditure aside from feeding at the household level (OPM 2013a).</i>	⊕⊕⊕⊕ Moderate
	Non-farm enterprises		<i>My guardian has started doing tearoom business and money is coming to our house when people</i>	⊕⊕⊕⊕ Moderate

(continued)

Table 3. (continued)

Organizing theme	Basic theme	Study references	Illustrative quotes	ConQual ^a
		Miller (2010), OPM (2013a, b, 2014a, c), Skovdal <i>et al.</i> (2013)	<i>come to buy cups of tea. They also bought maize with the money realized from the business (Miller 2010).</i> <i>Some of the beneficiaries have started small businesses. They have put up temporary tables where they sell sweets, biscuits, matches etc. Others also fry koshe and kulikuli and they sell them in the market on the road (OPM 2013a).</i>	
Child labour	Child labour	Miller (2010, 2012a), Owusu-Addo (2016), Miller (2012b), DSD <i>et al.</i> (2011), Bukuluki and Watson (2012)	<i>In the past, we were doing casual labour like cultivating the farmland, but now we have stopped because we are always in school learning (Miller 2010).</i> <i>My point is that many teenagers they came back to school, those who drop out from school came back. I think this CSG money made them to realise that their future is still there. The message is: 'Go back to school because there are free things' (DSD <i>et al.</i> 2011).</i>	⊕⊕⊕⊕ High
Savings	Savings	Bukuluki and Watson (2012), Selvester <i>et al.</i> (2012)	<i>Some of them are trying to invest their money.</i> <i>There was a man I interviewed who said he saves his money with the village saving scheme and he is sure that at the end of the day, he will invest his money for his help in the near future (Bukuluki and Watson 2012).</i>	⊕⊕⊖⊖ Low
Borrowing	Capacity to borrow Credit worthiness Feeling 'safe' to borrow	Zembe-Mkabile <i>et al.</i> (2015), OPM (2013a, b, 2014, b, c), Bukuluki and Watson (2012), Selvester <i>et al.</i> (2012)	<i>We are only receiving credit since the introduction of the cash transfer. Before that the business people were not sure how we could pay them back since we were not working (OPM 2014b).</i> <i>These people can now borrow. These people are now known as beneficiaries and [are] more credit-worthy (OPM 2013b).</i>	⊕⊕⊕⊖ Moderate
Housing and living environment	Renovations of houses/rooms Changes in living environment	Miller (2010, 2012b), OPM (2014c), Roelen <i>et al.</i> (2015), Onyango-Ouma and Samuels (2012), Bukuluki and Watson (2012)	<i>My grandmother has also built a burnt brick house, bought me uniform and... My parents managed to build burn brick glass thatched house with paint in side of the house... without this scheme we would have no house (Miller 2010).</i> <i>It has helped improve the sanitation of my household. I was able to build a shelter over the pit latrine that I had dug (Bukuluki and Watson 2012).</i>	⊕⊕⊕⊖ Moderate
Household assets	Household assets	Miller (2010, 2012b)	<i>We sleep comfortably because we have acquired good blankets and sleeping mats. Some families have bought bicycles, which they did not have (Miller 2010).</i>	⊕⊕⊖⊖ Low
Civic participation	Involvement in decision-making Reintegration into community life Holding state accountable	Oduro (2015), Plageron <i>et al.</i> (2012), Skovdal <i>et al.</i> (2013), Onyango-Ouma and Samuels (2012), Bukuluki and Watson (2012), Selvester <i>et al.</i> (2012)	<i>Now I have the opportunity to sit with government officials. They call me to find out what's going on. Previously it was difficult to go the district assembly to make complaints, but now I have contacts within the assembly. I call them and tell them to remember us when there is a new programme.</i> <i>I even told the district social welfare director to help us get borehole water (Oduro 2015).</i> <i>I was happy [when I received the grant], because I knew that there was something that would help me from the government that we voted for (Plageron <i>et al.</i> 2012).</i> <i>We were gathered village by village and we were told to write down the names of people we wanted to get in the committee (Skovdal <i>et al.</i> 2013).</i>	⊕⊕⊕⊖ Moderate
<i>Health outcomes</i>				
Mental health	Self-esteem			⊕⊕⊕⊖ Moderate

(continued)

Table 3. (continued)

Organizing theme	Basic theme	Study references	Illustrative quotes	ConQual ^a
	Reduced stress, anxiety, worrying, and depression, stereotyping of grant recipients	Jones and Samuels (2015), Miller and Tsoka (2012b), OPM (2013a, 2014a, b), Owusu-Addo and Cross (2014), Skovdal <i>et al.</i> (2013), Plagerson <i>et al.</i> (2011)	<i>It makes them happy when they go out and compare themselves with their friends in terms of clothing. So they don't think that they are orphans when they have everything a father can offer to a child (Owusu-Addo and Cross 2014).</i> <i>The money helps a lot if you are a mother who does not waste it by drinking alcohol, or by doing your hair. I don't care about hair, I just put on a head scarf and cook for my children. The money makes me happy because I know that even if I don't have anything the money will come (Plagerson 2011).</i> <i>Last year I used to suffer from headaches because I was always thinking about my brother who was not going to school. . . Right now I can go for 3 months without experiencing any headaches. I am now comfortable at school. I do not feel out of place (Skovdal <i>et al.</i> 2013).</i>	
Physical health	Morbidity	Miller (2010, 2012b)	<i>The children are now looking good, healthy and their skin soft because of nice food. There are no frequent sicknesses now (Miller 2010).</i> <i>The frequency of falling sick has dropped now since receiving the transfers because I have something for food and painkillers (Miller 2012b).</i>	⊕⊕○○ Low

^aConQual indicates the level of confidence in the synthesised findings (high, moderate, low, very low). High quality, further research is very unlikely to change our confidence in program impacts; moderate quality, further research is likely to have an important impact on our confidence in program impacts; low quality, further research is very likely to have an important impact on our confidence in program impacts; very low quality, we are very uncertain about program impacts.

pattern was found in Malawi's SCTP where the effect was 15 pp at the secondary school level compared with 13 pp at the primary school level (Malawi SCTP Evaluation Team 2015). Data from Burkina Faso (Baird *et al.* 2011) and Malawi (Akresh *et al.* 2016) indicate that CCTs increased school enrolment significantly more than UCTs (15 pp vs -5 pp and 0.5 times vs 0.2 times, respectively).

There were mixed findings concerning the impact of CTs on school attendance in 10 programs. Five showed positive outcomes (Baird *et al.*, 2011; Robertson *et al.* 2012; Akresh *et al.* 2013, 2016; Evans *et al.* 2014; Handa *et al.* 2016e) while five did not (Covarrubias *et al.* 2012; Merttens *et al.* 2013, 2016; AIR 2014; Pettifor *et al.*, 2016). Three studies (Baird *et al.* 2011; Robertson *et al.* 2012; Akresh *et al.* 2013, 2016) compared the effects of UCTs and CCTs and found that CCTs improved school attendance significantly more than UCTs. Two studies on the Zambia's CGP revealed that while the program increased school attendance at 24 months by 7 pp (Handa *et al.* 2016e), at 48 months the effect had disappeared (AIR 2015b). AIR (2014) found that Zimbabwe's HSCT was associated with reduced school attendance by 7 pp at 12 months among beneficiary children of secondary school age. This was, however, attributed to the large increase in school attendance in the control group from their baseline attendance.

Evaluation of six CT programs showed a significant reduction in school absenteeism among CTs beneficiaries compared to control groups. In Ghana, de Groot *et al.* (2015) found that the program reduced overall absenteeism by 8.5 pp. Malawi's SCTP also reduced absenteeism by 5 pp (Malawi SCTP Evaluation Team 2015).

With regard to learning outcomes, there was limited evidence of program impact. However, when comparing CCT versus UCT, CCT seemed to have a marginal benefit in Burkina Faso's CT (z -score of 0.2 for CCT vs 0.0 for UCT in French reading test) and the Zomba CT in Malawi (mean score of 0.2 for CCT vs 0.1 for

UCT in cognitive test). Evans *et al.* (2014) found that while the CCT in Tanzania increased literacy by 4 pp at midline (21 months) there was no significant impact at endline (34 months).

We identified 14 qualitative studies which had explored caregivers' and communities' perspectives on program impact upon educational outcomes. The findings of these studies suggest that CT programs significantly improved school enrolment and attendance. However, there was no clear cut distinction made between school enrolment and school attendance. Improvements in education were reported to be largely due to the programs' ability to address the material and psychological cost of schooling (e.g. reducing stigma due to not wearing decent uniforms) (Adato *et al.* 2016).

Health care-utilization

We found evidence of the impact upon health services use from the evaluation of 14 CT programs. The outcome indicators for health-care utilization comprised care-seeking behaviour (preventive, curative and immunisation services), antenatal care visits (ANC) and access to skilled delivery (maternal health services).

Of 11 CT programs evaluated for their impact upon care seeking behaviour, 9 showed positive impacts. Ghana's program increased the use of curative health care by 24 pp among children aged 0–5 years. This increased use of health services could be attributed to the high enrolment in the national health insurance scheme (NHIS) (34 pp), a scheme which allowed registered members to have access to free health care. Enrolment onto the NHIS, was a condition that beneficiaries were required to meet in this program (Handa *et al.* 2014b). Malawi's SCTP increased the likelihood of utilizing health services for serious illness (OR=10.98). Malawi's SHIS, a pilot study on incentivising uptake of HIV testing results, increased the percentage of individuals collecting these by 43 pp compared with those who received

no incentive (Thornton 2008). Zimbabwe's CCTP increased vaccination coverage by 3.1 pp in the UCT arm and by 1.8 pp in the CCT arm (Robertson *et al.* 2012). Tanzania's CB-CCT significantly increased the number of health facility visits by 1.9 visits per year among children aged 0–2 and by 1.1 visits among the elderly, and increased the likelihood of using health insurance by 18 pp. While the increased likelihood of financing medical care using health insurance was sustained at 34 months, the impact on health facility usage had disappeared at this time point. The reasons given for this decline included a possible overcrowding of clinics in treatment communities, disincentivizing attendance, or non-enforcement of the clinic attendance condition (Evans *et al.* 2014).

Mixed evidence was found on CTs' impact on ANC and use of skilled delivery attendants. Nigeria's CT program resulted in a significant increase in the monthly number of women attending four or more ANC visits (15/100 000 population) and the monthly number of women receiving at least two doses of tetanus toxoid (13/100 000 population) (Okoli *et al.* 2014). There was, however, no significant program effects on skilled delivery and the number of women attending first ANC visit. The Democratic Republic of Congo CT program increased the probability of HIV-infected pregnant women remaining in care (RR = 1.13) and the uptake of mother-to-child HIV transmission services (RR = 1.31) (Yotebieng *et al.* 2016). Uganda's ACUS pilot study increased the odds of three or more ANC (OR = 1.7), but there was no effect found for use of skilled attendants (Kahn *et al.* 2015). Zambia's CGP did not have any measurable program effects on ANC and skilled delivery (AIR 2015 b; Handa *et al.* 2016d).

Evidence from eight qualitative studies corroborated a number of the quantitative findings suggesting that CTs helped beneficiaries tackle the financial barriers that limit access to health care. The qualitative studies found evidence relating to increases in vaccination coverage, acquisition of health insurance, and utilisation of health services for preventive and curative care. The findings from the qualitative evidence further showed that the CT size was often inadequate to meet all health expenses, particularly coverage of the cost of drugs.

Nutrition

The effect of CTs on food security was examined in seven programs while CTs' effect on dietary diversity was examined in nine programs. Overall, there was a consistent positive program effect on food security across all studies. Ghana's LEAP reduced household food insecurity by 25 pp (Handa *et al.* 2014b). For Zambia's government-led program, the CGP reduced the food insecurity scale by 1.9 points (AIR 2015b) while the MCTG reduced the food insecurity scale by 2.8 points (AIR 2015a). In Zimbabwe, contrary to the findings of the main evaluation study which did not find any impact of the HSCT on food security (AIR 2014), Bhalla *et al.* (2016) using the same data found that the HSCT significantly reduced household food insecurity by 1.3 points. Malawi's SCTP had a significant impact on food security by increasing the number of meals eaten per day (0.17 points) and by reducing the proportion of households feeling food insecure by 11 pp (Malawi SCTP Evaluation Team 2015). Lesotho's CGP similarly had a large effect on food security by reducing the proportion of households with insufficient food to meet their needs by 4.5 pp and the number of beneficiary adults and children that went to sleep hungry by 7.4 pp and 3.4 pp, respectively (Pellerano *et al.* 2014).

A consistent positive program effect was found for dietary diversity. Tiwari *et al.*'s (2016) cross-country study using data from existing large-scale CT evaluations revealed that the programs

significantly increased the food diversity score by 1.9, 1.5 and 0.3 points in Zambia, Kenya and Lesotho, respectively. The programs further significantly increased the household dietary diversity score by 1, 0.6 and 0.3 points in Zambia, Kenya and Lesotho, respectively. Zimbabwe's HSCT significantly increased the household diversity score by 0.75 points (Bhalla *et al.* 2016) while Malawi's SCTP significantly increased the food diversity score by 2.4 points (Miller *et al.* 2011). For the government-led program in Uganda, a significant increase in mean household food consumption was found for the VSFG (3.8 points) and a non-significant increase for the SCG (1.6 points) (Merttens *et al.* 2016). The pilot project in Uganda (KWFP-CT) similarly increased the household dietary diversity score by 0.6 points.

We identified 11 qualitative studies that reported consistent positive impacts of CTs on food security and food intake. These studies showed that CTs increased beneficiaries' access to food at the household level and afforded them the opportunity to eat more than one meal a day (Miller *et al.* 2010; Jones and Samuels 2015; Owusu-Addo 2016a). Beneficiaries were also found to have diversified their meals by eating more fish, oil and fruits (OPM 2013a).

Employment

Seven studies reported the impact of CTs on adult labour force participation with only one of them showing a significant effect. The Zambian CGP resulted in a significant decrease in adult labour force participation in wage labour outside the household (9 pp). This was primarily driven by a shift from agricultural wage labour to family agricultural business and NFE. The effect was stronger for households with females within the working age group compared with households with males in this age group (Daidone *et al.* 2014a). There were no qualitative studies focusing on this SDoH.

Child labour

Three programs (one from Malawi and two from Kenya) reported significant reductions in child labour participation, ranging from 1.8 to 12.4 pp, while three others (in Lesotho, Uganda and Zimbabwe) showed little impact on this outcome. Despite showing no overall effect, Zimbabwe's HSCT found a significant reduction in the number of days girls spent on farm work by 5.6 days. Similarly, in Lesotho's CGP there was little evidence of overall impact on child labour, but disaggregating the analysis by gender revealed a decrease in labour force participation among boys aged 6–17 years, while girls increased their participation in paid work (Pellerano *et al.* 2014). There was found to be a negative impact in Zambia's CGP, with an increase in child labour of 4.8 pp, largely driven by participation in unpaid work (AIR 2015b). We found one qualitative study from Malawi which reported a reduction in children's participation in labour as a result of being enrolled in school (Miller *et al.* 2010).

Program impacts on intensity of child labour measured in hours spent on labour activities were similar to the findings about labour force participation. Malawi's SCTP significantly reduced by almost 1 h/week the time children spent doing paid labour outside the household (Malawi SCTP Evaluation Team 2015). Zimbabwe's CCTP significantly reduced the number of hours that children spent in paid work by half an hour in the CCT arm, and a quarter of an hour, in the UCT arm (Fenton *et al.* 2016). There was no qualitative study on this outcome indicator.

Housing conditions and quality

Of four CT programs which have evaluated their impacts upon housing conditions, only one (Zambia's CGP) reported significant

housing improvements, evident from improved sanitation (owning a toilet), cement floors, lighting and use of fuel for cooking (AIR 2015b; Handa *et al.* 2016e). In Burkina Faso, CTs to fathers resulted in more investment in electricity and metal roofs compared to CTs to mothers, while UCT (as opposed to CCT) was associated with a lower likelihood of housing improvement (Akresh *et al.* 2016). In Tanzania, while quantitative findings showed beneficiary households were less likely to improve housing conditions, qualitative data embedded in the quantitative study showed beneficiary households spent part of the CT on improving their roofs (Evans *et al.* 2014). Additional evidence from five qualitative studies (in Ghana, Kenya, Malawi and Uganda) showed that program beneficiaries made renovations to their houses and improved their living environments, a finding which contrasted to the quantitative findings.

Birth registration

Four programs (Kenya, Lesotho, Malawi and Zimbabwe) reported significant improvements in birth registration, with effects ranging from 1.5 to 37 pp. Evidence from three qualitative studies support the quantitative findings. In Zimbabwe, Skovdal *et al.* (2013) reported that CT increased community understanding of the importance of birth registration which led to increased acquisition of birth certificates. South Africa's Child Support Grant helped shorten the birth registration process with birth certificates being issued by hospitals and clinics to enable beneficiaries to apply for the grant (DSD *et al.* 2011). In Kenya, the CT-OVC increased birth registration, but it appears program beneficiaries were 'forced' to do so as captured by the quote in Table 3 (OPM 2014a).

Child deprivation

Two indicators were used to measure child deprivation, namely: material well-being defined as having a pair of shoes, a blanket and two sets of clothes; and food and health deprivation. Four CTs (in Malawi, Zambia and Zimbabwe) had consistently large impacts in reducing child deprivation measured by material well-being with effects ranging from 11 to 33.4 pp for children aged 5–17 years. Lesotho's program significantly reduced child food and health deprivation with effects ranging from 6.10 to 16.6 pp and 5.5 to 19.9 pp, respectively, with a significant effect found among children aged 0–5 years. Evidence from six qualitative studies similarly showed that CTs reduced material deprivation among children.

Social capital and social cohesion

Four programs evaluated their impacts on social capital (measured by trust and mutual support) and three of these (Lesotho, Tanzania and Uganda's VFSG) reported significant improvements ranging from 6 to 11.8 pp. Ten qualitative studies found that CTs improved the social capital of beneficiaries through reciprocity, networks and civic engagement.

Evidence concerning the impact of CTs on social cohesion came primarily from qualitative studies. CTs were said to have improved social cohesion in diverse ways through improved security, increased sense of belonging, enhanced social status and state-citizen social contact. There was, however, some reports of unintended consequences of creating tension and jealousy within households between female recipients and their husbands, and at the community level between beneficiaries and non-beneficiaries. It has also been found in selected studies that receipt of CTs was associated with an erosion of informal support that beneficiaries previously received from immediate family and other community members.

Civic participation

The findings of two studies showed that CTs significantly enhanced beneficiaries involvement in community decision-making (effects ranging from 7 to 22 pp and 3.3 to 8.3 pp in Tanzania and Uganda, respectively). Six qualitative studies (in Ghana, Kenya, Mozambique, South Africa, Uganda and Zimbabwe) reported that CTs increased beneficiaries' involvement in decision-making, facilitated reintegration into community life, and increased the perception of state institutions being accountable to citizens (Plageron 2012; Oduro 2015).

Empowerment

The impact of CTs on empowerment was evaluated using three core indicators: women's decision-making power and control over resources (economic and social empowerment), early marriage, and adolescent pregnancy.

In relation to women's decision-making power, both quantitative and qualitative studies indicated that CTs have had limited impact upon gendered household decision-making processes, although there were some reports of increased involvement of women in decisions relating to schooling and child healthcare. The results from the quantitative studies however, indicated that women significantly benefited from the programs through economic empowerment (savings and ownership of livestock) in Zambia's CGP and MCT, and in Kenya's HSNP (Merttens *et al.* 2013; Handa *et al.* 2016a; Natali *et al.* 2016). Similarly, evidence from four qualitative studies revealed that by putting additional money into the hands of women, CTs increased women's access to and control over resources (OPM, 2013a, b, 2014a, b) (see Table 3).

The effects of CTs on empowering young women against early marriage were examined in six quantitative studies covering three programs. Results from Malawi's ZCTP indicated that the program led to significant declines in early marriage after 12 and 24 months follow-up, as girls and young women returned to or stayed in school (Baird *et al.* 2011). However, Baird *et al.* (2015) demonstrated that the impact of the UCT on early marriage was not sustained two years after program completion, whereas the CCT significantly reduced early marriage among school drop-outs by 10.3 pp at this follow-up point. Kenya's CT-OVC (Handa *et al.* 2015) and Zambia's MCTG (AIR 2015a) reported no significant impact on this outcome.

The role of CTs in empowering women by reducing adolescent pregnancy was examined in eight programs. Three programs (ZCTP Malawi, CT-OVC Kenya and CSG South Africa) significantly reduced the likelihood of early pregnancy (with impacts ranging from 3.8 to 10.5 pp). Conversely, four programs (SHIS Malawi, Malawi SCTP, HPTN South Africa and HSCT Zimbabwe) had no significant impact on adolescent pregnancy. The lack of program effect in Malawi's SHIS was said to be due to insufficient cash transfer to stimulate behaviour change (Kohler and Thornton 2012).

Findings on health and quality of life outcomes

The included studies reported on the following health and quality of life outcomes: morbidity, child anthropometry, mental health and wellbeing, and sexual behaviours. Details of program effects (quantitative) are provided in Supplementary Tables S13.1–13.7 in Supplementary Data S3.

Morbidity

Of 16 programs included in the review, nine focused on child health outcomes and most reported significant effects (7 out of 9).

Measures used were largely mothers' reports of health outcomes of their children. Reduction in illness rates ranged from 4.9 pp in Zambia (Handa *et al.*, 2016e) to 17.02 pp in Lesotho (Pellerano *et al.* 2014). Two qualitative studies reported that the frequency of sickness had reduced among program beneficiary children.

Three studies using objective measures reported on program impacts on HIV/STIs. In Tanzania, de Walque *et al.* (2014) found that a high value CT (USD 20 per quarter) significantly reduced the risk of STI, while results one year post intervention showed that the program had sustained effects across both high and low value CTs. Baird *et al.* (2012) similarly found that CTs significantly reduced the prevalence of HIV and HSV-2 among schoolgirls. In South Africa, there was no significant difference in HIV and HSV-2 prevalence between CT beneficiaries and non-beneficiaries (Pettifor *et al.* 2016).

Child anthropometry/nutritional status

Programs that evaluated their impact on anthropometric measures generally showed mixed effects.

CTs impact on children being underweight was assessed in nine programs. Five programs (in Burkina Faso, Lesotho, Malawi, Tanzania and Zimbabwe) had no impact on children being underweight in the whole study samples. Lesotho's CGP, however, significantly reduced the probability of children (6 months old) being underweight by 15 pp, but had no effect on weight status at birth (Pellerano *et al.* 2014). A limitation of this study was that data were collected from child health record cards which had very low numbers for observation. In Burkina Faso, Akresh *et al.* (2016) found there was no program effect on underweight at 24 months, whereas at 12 months the CCT arm had a significantly larger effect on weight-for-age z-score (WAZ) than the UCT arm. Four programs (in Kenya, Uganda and Zambia) showed positive but non-significant impacts on WAZ and underweight. In the case of Zambia's CSG, while the program had a small positive effect on WAZ at 24 months (Handa *et al.* 2016e), a negative impact was found at 48 months. This program, however, significantly increased the proportion of children receiving the minimum amount of feeding by 21.7 pp at 48 months and by 13.4 pp at 24 months (AIR 2015b; Handa *et al.* 2016e).

Evaluation of seven programs concerning their impact on child wasting also showed no consistent positive impact. In Burkina Faso, Akresh *et al.* (2016) found that CCTs had a stronger impact than UCTs in improving arm circumference-for-age z-score. Malawi's SCTP significantly reduced the prevalence of wasting by 2 pp (Malawi SCTP Evaluation Team 2015). Five other programs (Kenya, Uganda, Tanzania, Zambia and Zimbabwe) reported no impact on child wasting. Of eight programs evaluated for their impact on stunting, one had a significant positive impact (the CCT component of Burkina Faso's program) while the others reported no impact. No qualitative study was found on this outcome.

Mental health outcomes

Mental health indicators (happiness, hope, psychological distress and depression) were measured in six programs of which four programs showed significant improvements across these indicators with effects ranging from 6.3 to 22 pp. In Malawi's ZCTP, UCT significantly reduced psychological distress among adolescent schoolgirls by 14.3 pp compared to CCT (6.3 pp) (Baird *et al.* 2013b). This study reported that factors such as improvements in physical health, increased schooling, family support for education and increased levels of individual consumption and leisure accounted for the positive program impacts among schoolgirls. Results from eight qualitative

studies indicated that CTs improved mental health outcomes by increasing self-esteem and reducing stress, anxiety, worrying, depression and stigmatisation against program beneficiaries.

Sexual behaviour

Two sexual behaviour outcomes were assessed in the included studies: sexual debut and multiple sexual partners. Of seven programs where impacts were assessed on sexual debut among young people, five showed significant reductions with effects ranging from 3.1 to 13 pp. Program impact in reducing sexual debut was found among girls but not for boys in South Africa's government-led CT (Cluver *et al.* 2013), whereas the opposite was the case in Malawi's government-led CT (Malawi SCTP Evaluation Team 2015).

Of five programs evaluated, four showed significant reductions in the probability of young people aged 13–25 years having multiple sexual partners, but with mixed effects when disaggregated by gender. Kenya's government-led CT had no significant impact on the number of sexual partners and transactional sex (Handa *et al.* 2014a). Evidence from three qualitative studies revealed that CTs reduced risky sexual behaviours, particularly transactional sex. The mechanism by which CTs reduced risky sexual behaviour was reportedly through the income effect, as this enabled young women to leave or not to engage in violent relationships (Miller *et al.* 2010; DSD *et al.* 2011; Adato *et al.* 2016).

Findings on health inequalities

We found no study providing data that might be useful in examining CTs impact on health inequalities. It was observed that studies which provided sub-group analyses had no clear intention of testing pre-specified hypotheses about differential effects of CTs. In spite of these limitations, we present results from studies that reported inconsistent findings about the impacts of CTs on health inequalities.

Akresh *et al.* (2012) found that there was no difference in the number of routine preventive healthcare visits for children living in extremely poor households compared with those living in less poor households. In contrast, in Malawi, strong impacts on the use of curative healthcare services were found among the poorest households (12 pp). There was also a significant reduction in first adolescent pregnancy among females in the poorest households (4 pp) compared to the overall sample of households in the treatment group (Malawi SCTP Evaluation Team 2015). Malawi's SCTP further reported a significant reduction in young men engaging in sexual activity by 9 pp while there was an insignificant impact among females (3 pp). However, this may have been because, regardless of treatment status, males were more likely to report sexual debut (Malawi SCTP Evaluation Team 2015). In contrast, in South Africa, the CSG had a significant impact in reducing the probability of females engaging in sexual activity (11.1 pp) while there was an insignificant impact among males (3.1 pp) (Heinrich *et al.* 2017). Program impact in reducing sexual debut among females was largely driven by a reduction in transactional sex (Cluver *et al.* 2013), possibly as a result of the income effect of the program. In Kenya, Handa *et al.* (2014a) found that CTs significantly reduced the relative odds of sexual debut among females compared to males.

Akresh *et al.* (2016) observed that the impact of CTs on the use of preventive healthcare services was fairly consistent across boys and girls in Burkina Faso. CTs were however, found to have significantly improved WAZ and reduced illness episodes for boys, but not for girls. Handa *et al.* (2014b) found that Ghana's CT had a stronger impact on children aged 0–5 years enrolling in a national health

insurance scheme (34 pp) than children age 6–17 years (16 pp). The effect was also higher among children aged 0–5 years living in female headed households than those living in male headed households. Similarly, Malawi SCTP significantly reduced the prevalence of wasting by 2 pp among children living in female headed households compared to children living in male headed households (Malawi SCTP Evaluation Team 2015). These indicate that the gender of household head and the size of the household moderate CT impact. Akresh *et al.* (2012) also found that CCTs had a larger impact for older children's (24–59 months) use of preventive healthcare services (0.6 visits) than for younger children (0–23 months) (0.1 visits) in Burkina Faso.

Contextual factors (barriers and facilitators)

Many of the program impacts described above are clearly influenced by contextual factors surrounding CT design and implementation, and beneficiary households. Supplementary Data S4 provides a summary of the factors that enabled or hindered program impacts gleaned from the included studies.

The size of the transfer and regularity of transfer payment were the dominant factors reported as influences upon the effectiveness of CTs. For instance, Pellerano *et al.* (2014) noted that frequent transfers of sufficient amount were likely to have increased health services use and household consumption. Tiwari *et al.*'s (2016) assessment of CTs impact across four countries found that variations in the size of transfer had implications for the range and size of program effects on food security and nutrition outcomes. In Niger, it was found that CTs alone had no impact on acute malnutrition and severe acute malnutrition unless CTs were combined with supplementary food (Langendorf *et al.* 2014). Limited access to markets, agricultural inputs and opportunities for commercial activities was found to have reduced beneficiaries' participation in NFE in five countries (OPM 2013a, b, 2014a, b, c).

Handa *et al.* (2014b) described how inflation eroded the real value of the CT in Ghana making it difficult for households to meet their consumption needs. The authors found that in 2010 the transfer level was 11% of consumption expenditure among target beneficiaries, but the real value was reduced to 7% by 2012 due to inflation.

Skovdal *et al.* (2013) observed that active participation of the community in program design and implementation improved acceptance of program conditions in Zimbabwe. Community acceptance of program conditions was said to have enhanced social cohesion by reducing tension among transfer recipients and non-recipients.

Household level factors such as gender norms, household size and composition, and intra-household dynamics were reported as influences upon the impact of CTs. For instance, in Burkina Faso, Akresh *et al.* (2016) observed that CTs to fathers had a significant impact on child nutritional outcomes compared to CTs to mothers. This finding was attributed to the fact that in Burkina Faso fathers are often the breadwinners in the household (Kazianga and Wahhaj 2013) and are likely to have been obliged to allocate a greater part of the CT to food than mothers (Akresh *et al.* 2016).

Discussion

This systematic review was the first to synthesise the evidence on the impact of CTs on SDoH and health inequalities in SSA, as well as identifying the barriers and facilitators of an effective CT. Both

quantitative and qualitative evidence show that CTs can be effective in tackling structural determinants of health such as financial poverty, education, household resilience, child labour, social capital and social cohesion, civic participation, and birth registration. The review further found that CTs can modify intermediate determinants such as material circumstances (nutrition and dietary diversity, child deprivation, savings, household consumption, capacity to borrow in times of need), psychosocial circumstances (relief from debt, self-esteem, reduced stress, anxiety and worrying), sexual risk behaviours among adolescents (sexual debut, multiple partners and transactional sex), adolescent empowerment (reduced early marriage and pregnancy), and utilization of health services. As a result of their influence on structural and intermediate determinants of health, there is some moderate evidence that CTs impact on health and quality of life outcomes (morbidity, HIV/STIs, child growth status and mental health).

The quality of the evidence on SDoH

As shown in Table 2, using the GRADE approach, the overall quality of evidence on financial poverty reduction is moderate. This shows that CTs are effective in reducing short-term poverty, a finding which is supported by other CT reviews (Fiszbein and Schady 2009; Leroy *et al.* 2009). There is also high quality evidence that CTs significantly increase both total household consumption and food consumption, which aligns with Kabeer and Waddington's (2015) review concerning the impact of CCTs in Latin America.

Overall, there is moderate quality evidence of CTs impact on household resilience. Within the resilience domain, while the GRADE criteria indicates high quality evidence on household capacity to borrow and/or be relieved from debt, studies assessed using ConQual criteria indicate moderate quality evidence. The qualitative evidence suggests that some beneficiaries are still unable to borrow due to fear of being in debt. Similarly, beneficiaries are largely able to borrow from informal sources as they are unable to meet the requirements of financial institutions. There is moderate evidence, using GRADE, of program impact on household productive capacity through acquisition of agricultural inputs and assets. This aligns with a recent study by FAO (2015) which found that CTs are essential for increasing agricultural productivity among poor households.

Using both GRADE and ConQual criteria, the quality of evidence in relation to CTs impact on education is strong, particularly for school enrolment, which is consistent with previous systematic reviews (Baird *et al.*, 2013a; Snilstveit *et al.*, 2015). Moderate quality evidence was, however, found in relation to school attendance and absenteeism, and low quality evidence for learning outcomes. Both Baird *et al.* (2013a) and Snilstveit *et al.*'s (2015) reviews also found that CTs had limited impact upon learning outcomes.

There is moderate quality evidence concerning CTs impact on use of preventive and curative health services using both GRADE and ConQual criteria. This finding aligns with other reviews with studies from Latin America which found that CTs increased health service utilization (Lagarde *et al.* 2007; Gaarder *et al.* 2010; Ranganathan and Lagarde 2012; Bassani *et al.* 2013; Glassman *et al.* 2013; Owusu-Addo and Cross 2014). There is also moderate quality evidence on antenatal visits and skilled delivery using GRADE which suggests a beneficial effect of CTs upon maternal and child health outcomes. Qualitative evidence from the review however, indicates that while CTs play a critical role in removing the financial barriers associated with utilising health services, the money is not enough to meet all expenses associated with medical care.

Using both grading criteria, there is high quality evidence of CTs impact on food security and dietary diversity. Reviews which have primarily focused on CTs in Latin America have also found that CTs influence food consumption and diversity of food intake (Leroy *et al.* 2009; Manley *et al.* 2013; Martins *et al.* 2013; Ruel and Alderman 2013; Owusu-Addo and Cross 2014).

Based on the GRADE criteria, there is low quality evidence of program impact on adult employment. We found one significant decrease in non-agricultural labour wage participation in Zambia. Similarly, Lesotho's CGP resulted in a reduction in engagement in paid work outside the household. However, overall there is limited evidence to suggest that CTs result in a withdrawal from the labour force by adults. Our findings are similar to those of Kabeer and Waddington (2015) who found that CCTs had no consistent effects on adult labour participation in Latin America. For child labour, both GRADE and ConQual criteria point to high quality evidence of CTs' ability to reduce child labour force participation and intensity. Our findings corroborate those of de Hoop and Rosati (2014) and Kabeer and Waddington (2015) whose reviews found that CTs reduced the prevalence of child labour in Latin America. In regard to CTs positive impact on child registration there is moderate quality evidence from quantitative studies but low quality evidence from qualitative studies. Birth registration is a major structural determinant of child health, affecting children's access and utilisation of a broad range of critical health and social services (Commission on Social Determinants of Health 2008).

Following GRADE and ConQual, there is high quality evidence of CT's ability to reduce child deprivation through improvement in material well-being and food availability. The quality of evidence on child poverty reduction is also high using the ConQual approach. This concurs with Barrientos and DeJong's (2006) argument that CTs can reduce child poverty despite differences in their design. However, to further cushion children against the worst forms of poverty and deprivation, there is the need to include clearly defined indicators relating to child poverty and deprivation in CT's design and evaluation.

Both GRADE and ConQual criteria show moderate quality evidence of CT's impact on social capital and social cohesion. While the evidence around social capital in terms of reciprocity, linking and bridging capital is strong from both quantitative and qualitative studies, the evidence concerning program impact on social cohesion is mixed from the qualitative studies. This finding is similar to that from Pavanello *et al.*'s (2016) examination of CT programs in the Middle East region and SSA which found that CTs contributed to bonding social capital, but had negative effects in terms of fuelling intra-community tensions and generating ill-feelings at the community level. However, in the present review, Skovdal *et al.* (2013) reported that active community participation in CTs design and implementation ameliorated intra-household and intra-community cohesion to help reduce the program's negative impact on social cohesion.

Relatedly, there is moderate evidence using both GRADE and ConQual criteria that CTs improve civic participation and contribute to beneficiaries' ability to take steps to hold the state accountable. CTs seem to have the potential to reduce exclusion of the poor from community decision-making processes, but this impact requires further exploration.

Assessment using GRADE and ConQual criteria indicates that there is low quality evidence of program impact on women's decision-making power in the household. Cultural norms and patriarchal rules which are difficult to contest were identified as key factors limiting women's decision-making power in the household.

There is, however, some evidence of program impact on women's economic empowerment in terms of building their capital stock and engagement in NFEs. These findings align with those from evaluations of CT programs in Latin America where, even though women are the major recipients of CTs (Handa *et al.* 2009), program impact upon their empowerment remains unclear (Yoong *et al.* 2012; de Brauw *et al.* 2014).

In relation to adolescent empowerment, assessment by the GRADE criteria shows high quality evidence of impact in reducing adolescent pregnancy and moderate quality evidence of reducing early marriage. This is very encouraging considering the increased rate of adolescent pregnancy in SSA with its high adverse effects on the health of pregnant teens and that of the unborn child (Owusu-Addo *et al.* 2016; WHO 2014a, b). This review suggests that CTs' impact on pregnancy could be attributed to increased school enrolment and school attendance, short-term poverty reduction among households, and reduced sexual debut.

Quality of evidence: health and quality of life

Following GRADE, there is high quality evidence of program impact in reducing childhood morbidity. This aligns with a previous review of CTs' impact in Latin America which found that these improve children's health status (Owusu-Addo and Cross 2014). However, there is low-quality evidence of program impact on nutritional outcomes among children aged 0–5 years. This finding contrasts with the evidence from Latin America which shows that CTs significantly improve child anthropometry (Leroy *et al.* 2009). This suggests that the strong evidence of program impact upon food security and food expenditure in households found in this review does not translate into program impacts on children's nutritional status. A number of factors could explain this, including behavioural and environmental factors (e.g. access to water and sanitation), transfer size, and household size. For instance, in Malawi, while there was no overall program impact upon stunting, there was a 16pp reduction in stunting among children living in households with less than four members (Malawi SCTP Evaluation Team 2015). De Groot *et al.* (2017) further note that caregiver feeding behaviours and practices and psychosocial care mediate CT impact on child nutritional outcomes.

Both GRADE and ConQual assessment point to moderate quality evidence of CTs' impact on mental health outcomes. Evidence from qualitative studies indicated that by improving the living conditions of households through the provision of basic needs such as food and education, CTs improved the subjective wellbeing of caregivers and children.

There is moderate quality evidence of program impact on sexual debut and the number of sexual partners among young people using GRADE. Appraisal of studies using the ConQual criteria shows moderate quality evidence of program impact on risky sexual behaviours. From the qualitative evidence, CTs seem to reduce risky sexual behaviours through the income effect. Similarly, using GRADE criteria, there is moderate quality evidence of the potential of CTs as a tool for HIV/STI prevention by incentivising safer sexual practices. However, it must be noted that the evidence around HIV/STI prevention from the included studies came from small-scale CCT programs, with no evidence from large-scale programs.

CTs' impact on health inequalities

The findings indicate that in relation to health and nutrition outcomes, CTs might be more effective for the extremely poor households, families with small household size, female headed households, and children aged 0–5 years. However, these findings

are not conclusive as they are based on very limited studies, and should be regarded as hypotheses for future examination. Further, most studies were not adequately powered for sub-group analyses and are susceptible to type 1 errors.

Strengths and limitations

To our knowledge this is the first systematic review that includes both quantitative and qualitative studies to provide a deeper understanding of CTs' impacts on SDoH and health outcomes. Because studies examining SDoH have been undertaken in diverse fields across a range of disciplines, the search strategy in this review included multiple evidence sources, and was piloted and revised. We acknowledge that the exclusion of studies in languages other than English is a limitation. However, in SSA English is the primary language of official business and is widely used for communications in the international arena (Plonski *et al.* 2013). We anticipate, therefore, that the vast majority of relevant studies are likely to be published in English. The external validity of the review findings is very strong as the findings largely compare favourably to those from Latin America. The findings thus provide useful insights to policy makers and managers and can be used to optimise CTs to reduce health inequalities.

Future research and evaluation

The review findings point to a major gap in knowledge regarding the mechanisms by which CTs influence SDoH and health outcomes. Both quantitative and qualitative studies included in this review largely failed to explore CTs' mechanisms of change. For instance, Pettifor *et al.*'s (2016, p. 985) study on the effect of CCT on HIV prevalence in South Africa concluded that: 'mechanisms through which the cash transfer might have reduced physical violence by a partner or sexual behaviour in this study are not clear'. Similarly, Handa *et al.*'s (2016, p. 18) study of Kenya's CT-OVC concluded: 'we have provided evidence that large-scale government run, unconditional cash transfers can positively impact sexual behaviours of young people in Africa, but the pathways remain unclear'. This points to a shortcoming of current approaches used to evaluate CT programs. It follows that future evaluations should consider using theory-driven approaches to evaluation such as realist evaluation (Pawson and Tilley 1997; Pawson 2013) which seeks to uncover the mechanisms by which programs bring about various outcomes in the contexts in which they are delivered.

As stated above, there has been little attention in CTs' evaluations to impacts upon health inequalities. In order to increase knowledge in this area, future evaluations need to be planned for sub-group analyses ensuring that they are adequately powered for this. The differential effects of CTs should be examined along PROGRESS categories (place of residence, ethnic origin, occupation, gender, religion, education, socioeconomic status and social capital). The PROGRESS terms, however, may require further modification to include household size and gender of household heads in the SSA context, as the findings of this review indicate that these factors may moderate program impacts.

Conclusion

There is an increasing call to address the SDoH and health inequalities through the implementation of culturally acceptable interventions, particularly in SSA. The important finding from this review is that there is strong evidence that CTs impact on structural and intermediate determinants of health in this region. There is however, moderate evidence of programs impact on health outcomes. This

implies that supplementary services and behaviour change interventions are critical to enhancing CTs impact on health outcomes. Similarly, CTs may have a significant negative impact on social cohesion. Therefore, it is important that their design, implementation and evaluation move beyond a focus on material impacts (e.g. poverty, education, nutrition, etc.) to take account of their impact on social relations, given that negative effects in this domain are likely to undermine the scale and sustainability of their impacts upon SDoH and health outcomes.

The review further shows that while CTs can produce short- to medium-term impacts on both SDoH and health outcomes, the long-term durability of these outcomes is unclear. Investigation of the sustainability of the outcomes engendered by CTs should be a priority in future studies.

Lastly, this systematic review found many factors relating to intervention design, macroeconomic stability, household dynamics and community acceptance of programs that could influence effectiveness of CTs. These should be taken into consideration by policy makers during the design and adjustment of CTs, and by evaluators to account for contextual influences upon program implementation and impact.

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Supplementary Data

Supplementary data are available at *Health Policy and Planning* online.

Conflict of interest statement. None declared.

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