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Safeguarding maternal and child health in South Africa by starting the Child Support Grant before birth: Design lessons from pregnancy support programmes in 27 countries

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Background. Deprivation during pregnancy and the neonatal period increases maternal morbidity, reduces birth weight and impairs child development, with lifelong consequences. Many poor countries provide grants to mitigate the impact of poverty during pregnancy. South Africa (SA) offers a post-delivery Child Support Grant (CSG), which could encompass support during pregnancy, informed by lessons learnt from similar grants.
Objectives. To review design and operational features of pregnancy support programmes, highlighting features that promote their effectiveness and efficiency, and implications thereof for SA.
Methods. Systematic review of programmes providing cash or other support during pregnancy in low- and middle-income countries.
Results. Thirty-two programmes were identified, across 27 countries. Programmes aimed to influence health service utilisation, but also longer-term health and social outcomes. Half included conditionalities around service utilisation. Multifaceted support, such as cash and vouchers, necessitated complex parallel administrative procedures. Five included design features to diminish perverse incentives. These and other complex features were often abandoned over time. Operational barriers and administrative costs were lowest in programmes with simplified procedures and that were integrated within child support.
Conclusions. Pregnancy support in SA would be feasible and effective if integrated within existing social support programmes and operationally simple. This requires uncomplicated enrolment procedures (e.g. an antenatal card), cash-only support, and few or no conditionalities. To overcome political barriers to implementation, the design might initially need to include features that discourage pregnancy incentives. Support could incentivise service utilisation, without difficult-to-measure conditionalities. Beginning the CSG in pregnancy would be operationally simple and could substantially transform maternal and child health.

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Income poverty and inequality remain pervasive worldwide, leaving many households with insufficient resources to meet their needs. In South Africa (SA), one of the most inequitable countries in the world, the poorest 20% of the population consumes only 4% of the country's goods and services, while the richest 20% takes 61%.[1] Pregnancy and childbearing further marginalise vulnerable women and children by reducing income-generating potential and introducing a host of new financial needs. Only 14% of pregnant women in the poorest quartile are employed, either in the informal or the formal sector.[2]

Pregnancy and breastfeeding considerably increase the volume and variety of food a women needs.[3] Inadequate nutrition during pregnancy results in adverse birth outcomes, suboptimal neonatal growth and development, and impaired cognitive development later in life.[4] Essentially, the nutritional status of the fetus *in utero* has a marked effect on subsequent child health and life chances, as well as intergenerational effects.[5] Also, during pregnancy women incur substantial costs for accessing services, such as transport and childcare for existing children, while seeking healthcare.

A large number of countries, including SA, have recognised the importance of providing support for children living in impoverished households, and the extent and range of benefits accrued are well documented.[6] The SA Child Support Grant (CSG), which began in 1998, provides ZAR350 (USD26) per month for children from birth up to 18 years. Eligibility is based on a means test, and currently there are over 10 million beneficiaries.[6] Timing this support to begin only once a child is born, however, limits its effectiveness and cannot undo the harms of maternal deprivation during pregnancy. Conversely, providing support to women *during* pregnancy would enable an improvement in maternal nutrition and overall wellbeing. The earlier in pregnancy such support begins, the more optimal placental

transfer of nutrients will be, with benefits both for the child and for subsequent generations.[7]

There is compelling empirical evidence that pregnancy support programmes alleviate the vulnerability of pregnant women – and, by extension, of their fetuses – with consequent improvements in maternal and child health outcomes.[8] Randomised trials in Latin America and South-East Asia have demonstrated that pregnancy grants can promote weight gain during pregnancy, reduce maternal anaemia, raise antenatal care (ANC) and skilled birth attendant (SBA) coverage, reduce maternal mortality, and prevent low-birth-weight births and infant mortality, among other benefits (see Table 1). Similarly, several SA studies have shown that among child beneficiaries of the CSG, the largest gains from this form of support come in the very early nutrition window of childhood. In one modelling study, children who began receiving the CSG within the first year of life had a 0.45 higher height-for-age *z*-score than other children, and this was expected to translate into an average 5 - 7% higher monthly wage as adults.[9]

The effect of extending the existing social welfare system in SA to encompass pregnant women would depend on how well it is designed and implemented. Identifying lessons from experiences with pregnancy support programmes in other low- and middle-income countries (LMICs) could help inform the design of and optimise gains from a similar programme in SA, and indicate how best to build

Table 1. Summary of benefits of maternity and early childhood support

Benefit category	Type of benefit	Description of impact
Maternal nutrition	Maternal weight gain and anaemia	More women gain weight necessary for healthy pregnancy, but also some rise in maternal obesity noted in two studies.[10] Reduced maternal anaemia. Improved maternal nutrition can lower maternal anaemia by 39%.[10,11]
Gender relations	Women's position within household	Increases in women's bargaining power and intra-household decision-making, and reduced domestic violence. Long-term support increased marriage rates by 4%.[12]
Equity	Targeting and impact on poor	Successfully targeted poor in most instances. Impacts generally greater in poor than other groups.
Health service utilisation	ANC attendance	Rise in ANC attendance in eight studies, ranging from 19% in a trial in Honduras[13] to 65% in Peru,[14] and a 4-fold increase in Bolivia.[15]
	SBA coverage	Rose 3.6-fold in Bangladesh,[16] and rose in four other countries. Also improved timeliness of access to services in childbirth.
Health services quality	Quality of care	Low-quality health services limit the benefits gained by higher patient demand for services. However, more empowered, informed and proactive patients demanded higher-quality services, thus improving service quality.
Maternal health and wellbeing	Maternal mortality	Grant reduced maternal mortality by 11% in Mexico,[17] but voucher scheme did not.[18]
	Physical and mental stress	Women more able to rest in late pregnancy, with reduced physical and mental stress.
Child health	Stillbirth rate	Improved nutrition can reduce stillbirths by 45%.[19]
	Birth weight	Mexico trial showed 127 g rise in birth weight from the grant.[20] Reduction in low birth weight (<2 500 g) varied from 5% in Mexico[20] to 15% in Uruguay,[21] 0 - 30% in the USA and 40% in black recipients in the USA.[22] In Columbia, newborn weight rose in urban but not rural areas. Improved nutrition during pregnancy can reduce low birth weight by 16%.[23]
	Premature and small-for-gestational-age babies	No effects on prematurity in Uruguay, but marked reductions in the USA. Also, with each 10% increase in duration of support in the USA, the risk of a full-term small-for-gestational-age baby dropped by 2.5%.[7] Improved nutrition in pregnancy can reduce the prevalence of small-for-gestational-age babies by 14 - 32%.[23]
	Infant growth	Infants in the intervention arm of the Mexico trial were 1.1 cm taller and had less childhood anaemia.[24] In the USA, infants of grant recipients were much more likely to be of normal weight and length, and 2-fold more likely to be perceived as having good health, than non-recipients.[25]
	Newborn and infant survival	USA grantees had a lower infant mortality rate, and infant mortality was 11% lower in Mexico. In India a grant lowered perinatal deaths by 3.7/1 000 and neonatal deaths by 2.3/1 000.[26] Improved maternal nutrition can reduce neonatal mortality by 38% and infant mortality by 22%.[23]
	Child growth and development	Offspring of women receiving a grant in Mexico had higher height at 24 - 68 months, fewer were stunted and fewer were overweight.[10] *Grants increased childhood motor and cognitive development, and receptive language abilities.*[27] In Brazil, children from families who received a grant were 26% more likely to be of normal height and weight.[28] In SA, children beginning the CSG in infancy had a 0.45 higher height-for-age *z*-score than other children.[9]
	Human capital and long-term development	SA research shows that height at 2 years is the best predictor of human capital, and that damage suffered in early life leads to permanent impairment and affects future generations.[4] Improving child nutrition during infancy and before 3 years can raise adult income by 46% in men.[29]

upon existing social support programmes. We conducted a systematic review of pregnancy support programmes in LMICs, examining their objectives, types of support provided and factors facilitating implementation, and then considered the implications of these findings for providing an integrated SA maternal and child support programme starting in pregnancy. The health and social impacts of pregnancy support were not reviewed in detail, as these have already been clearly demonstrated in multiple systematic reviews (Table 1).

Methods

The systematic review began with a scoping search of Medline (PubMed) using subject headings and thesaurus terms. The full search strategy and terms are provided in Appendix 1. In brief, electronic databases including Academic Search Complete, Psychology and Behavioural Sciences Collection, Educational Resources Information Centre and Global Health Library were searched in August 2012. Reference lists of included articles were examined to identify other eligible articles. We also searched the websites of relevant international organisations (the World Bank, Save the Children and the United Nations Development Programme) for additional 'grey literature' (print and electronic format documents that are not produced by commercial publishers).

To be included in the review, documents had to describe projects implemented in a LMIC that provided cash or vouchers (redeemable for services or commodities) for women or the households in which they lived during pregnancy or childbirth. Projects that only provided postpartum support were excluded. Cash or other support during pregnancy could be the only intervention, or form part of a suite of interventions. We included both state and non-governmental programmes, operational at a national or local level. Excluded were projects that: (*i*) had pro-natalist objectives (i.e. aimed specifically to increase fertility in the target population); (*ii*) provided occupational benefits as part of paid maternity leave for women in the formal sector; (*iii*) entailed only user-fee exemptions at health facilities for pregnant women; and (*iv*) provided support other than cash or vouchers, such as only nutritional supplements.

A single reviewer extracted data on: (*i*) the groups targeted and objectives of support; (ii) key design features, including the means of identifying target groups, the type and duration of support, and conditionalities; and (*iii*) practical experiences with implementation, including administrative challenges faced with eligibility screening, disbursement or verification of conditionalities being met. The outcomes and impact of pregnancy support were also extracted, but are only summarised here (Table 1) as they have been reviewed extensively elsewhere.[8]

The analysis focused on comparing the objectives and design of projects across settings and identifying the challenges encountered by projects with different design formats and implementation strategies. We also assessed programme changes over time, and what lessons could be derived from these changes. Finally, we discussed the implications of the overall findings for the SA social grant system.

Results

The search identified 5 822 documents, from which we located a total of 32 programmes across 27 countries (Table 2). Data were drawn from 57 articles eligible for the review. Only four had started before 2000, with a median onset of 2005. Eight were in sub-Saharan Africa.

Target groups and support objectives

Two main categories of support could be differentiated. The first targeted *only* pregnant women (*n*=12). These initiatives were mainly found in South-East Asia (8/12), and primarily aimed to increase utilisation of public sector ANC, SBAs and postpartum care among poor women. Generally, the schemes did not specifically aim to encourage *early* ANC attendance, although in the Indira Gandhi Matriva Sahyog Yojana (IGMSY) (Table 2, row 5) women had to register their pregnancy before 4 months' gestation to be eligible, and this indirectly incentivised early booking. In some of these programmes assistance was also framed more broadly as a strategy for improving the health and nutrition of pregnant and lactating mothers, for example to enable adequate rest during pregnancy and after delivery (India, row 3), and to encourage optimal infant feeding practices. Finally, a few programmes, mainly in India, conceptualised maternity support as a means of compensating women for their reduced income-earning potential during pregnancy. The Dr Muthulakshmi Maternity Assistance Scheme (DMMAS) programme in India, for example, specifically seeks to 'assist poor women with medical expenses around childbirth and compensate them for loss of wages around this time' (row 3).

The second group of programmes (*n*=20) targeted pregnant women *among other groups*, such as children and vulnerable families or households. Most of these programmes were located in Latin America and the Caribbean (12/20), and framed their objectives in much broader terms than the first category. Many were targeted primarily at reducing poverty and food insecurity, or the building of social equity or solidarity, rather than health *per se*. For some, the focus was mainly on addressing childhood poverty, as in Peru (row 30), where programmes aimed to use pregnancy support as a way to create improved social safety nets for children. In addition, several schemes had more long-term aspirations, such as breaking intergenerational poverty cycles (Brazil, row 15; El Salvador, row 16; Peru, row 30; Mexico, row 25), making investments in human capital (Brazil, row 15; Peru, row 30; Jamaica, row 24; Ethiopia, rows 17 and 18), or building social capital (Paraguay, row 29) and inclusivity (Panama, row 28).

Identifying target groups

Programmes adopted one of two strategies for selecting recipients, either targeting all women in selected poor areas, districts or states, or identifying individual poor women, regardless of where they lived. Two-stage processes were sometimes used, where municipal or district areas were selected first, followed by the identification of vulnerable households (Peru, row 30). Methods used to identify individuals varied widely, including the use of a short interview (India, row 3, Cambodia, row 2); tasking ANC staff with identifying eligible recipients, such as women with anaemia or slow weight gain during pregnancy; and home visits to estimate socioeconomic status, based on the characteristics of households. Countries that opted to target all women in an area cited the costs of screening as the rationale for their choice (Bangladesh, row 1; Nepal, row 8).

Several maternity grants were specifically configured to counter the concerns of politicians and popular opinion that a grant would incentivise pregnancy (especially among young women), or even discourage women from accessing abortion services. Features of such grants included restricting eligibility to a certain number of children (India, rows 4 and 5; Nepal, row 8), to women aged >19 years (India, rows 4 and 5) and to those with birth spacing of >2 years (Bangladesh, row 1), and providing a fixed fee per household rather than payments per child, thereby favouring small families (El Salvador, row 16). Others included a condition that recipients attend family planning services for 2 years after childbirth, or incorporated attending talks on contraception as conditionalities.

Table 2. Design features of programmes providing maternity and early child support in LMICs

			Beneficiary selection and support objectives		Type of support		
Row no.	Country: programme name [year began]	Form of support	Target groups (italics) and eligibility criteria	Key objectives of support programme	Value and method of support*	Conditions attached to support	Support management, how administered
Programmes providing only pregnancy and childbirth support, targeting pregnant women only							
1	**Bangladesh:** Maternal health demand side financing pilot [2006][16,30-32]	Cash (a portion of which was CCT), vouchers and gift boxes	All *pregnant women in the poorest subdistricts* eligible. 'Universal targeting' to avoid high administrative burden of identifying poor families. Means testing used in some sites.	To increase access to skilled attendance at childbirth and PNC services, and enhance equity in utilisation of these services	USD29 for facility birth; USD29 for nutritious food; gift box worth USD7 (baby soap, big towel, 2 sets baby clothes, bottle, Horlicks malt drink); voucher for 1 PNC check-up; and USD7 for transport for 5 visits	Vouchers to receive skilled care at home or at facility, and unconditional cash payments for transport and food. Vouchers initially only for first and second births and those who used FP to achieve 2-year birth spacing (to minimise incentive to conceive). In practice, conditions not enforced. Some payments conditional on giving birth in facility.	Public systems used for channelling funding rather than establishing an independent agency. Costs associated with childbirth given to either facility or SBA if delivery at home. Women can choose from accredited providers.
2	**Cambodia:** Two schemes: Health Equity Fund Assistance [2005] and Voucher Scheme [2007][33-35]	Cash and vouchers	*Poor pregnant women;* only pregnant women classified as 'very poor' or 'poor' get full or partial support. NGO staff interview women to determine eligibility, using questionnaire, index scores and eligibility criteria.	To improve access to safe delivery for poor women in three rural health districts by increasing use of SBAs and healthcare services. To reduce maternal mortality	Health Equity Fund: Cash for hospital fees, transport costs to facility, food allowance during hospitalisation, and funeral costs in event of death Voucher scheme: Five coupons for free services at health centre (3 ANC, 1 childbirth and 1 PNC visit) and transport costs for 5 trips from home to facility	None	Cash advances given to contracted facility to pay transport cost of voucher, using predefined price list. Reimbursement amount varies by village in the catchment area. Voucher scheme being tested from 2010, alongside facility accreditation (strategy to improve facility performance).
3	**India:** Dr Muthulakshmi Maternity Assistance Scheme (DMMAS) [1987][36]	Cash (CCT)	*Poor women in informal 'unorganised' sector at childbirth.* Excludes women in formal sector or with high income. Eligibility takes into account nature of occupation, housing, means of transport, seasonality of labour, women-headed families and ability to educate children.	To assist poor women with medical expenses around childbirth and compensate them for loss of wages around this time To promote rest before and after delivery To improve nutrition and exclusive breastfeeding rates	USD133; payment increased to USD226 in 2012	None initially, although specifically linked with information provision on maternal nutrition and breastfeeding advice. In 2012, converted into a CCT, requiring ANC and child health check-ups.	Originally given in several instalments, but became once-off payment at childbirth in 2009, to simplify administration.

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Table 2. (continued) Design features of programmes providing maternity and early child support in LMICs

			Beneficiary selection and support objectives		Type of support		
Row no.	Country: programme name [year began]	Form of support	Target groups (italics) and eligibility criteria	Key objectives of support programme	Value and method of support*	Conditions attached to support	Support management, how administered
4	**India:** Janani Suraksha Yojana 'Safe Motherhood Scheme' (JSY), previously National Maternity Benefit Scheme (NMBS) [1996][26,37-39]	Cash (CCT)	*Poor women during pregnancy and at childbirth.* Support initially only for women aged >19 years; first 2 live births; women with a government-issue below-poverty-line card or from a low caste or tribe. Parity criteria removed later. In 10 high-focus states, all women eligible.	To reduce maternal and neonatal deaths by incentivising women of low socioeconomic status to give birth in facilities	Once-only payment of USD14, 8 - 12 weeks before childbirth. Cash support after third ANC visit and after delivery in government or accredited private facility (±USD13.3 in urban and ±USD15.6 in rural areas). Additional amount given if emergency transport or CS required. Additional amounts in 10 high-focus states with low levels of facility births. Increases in amount over time, and benefit extended to home births.	Support conditional on attending 3 ANC visits and, initially, on having an institutional delivery.	Community health workers (ASHAs) identify pregnant women and help them get to a facility, and to enter the programme.
5	**India:** Indira Gandhi Matritva Sahyog Yojana (IGMSY) (Indira Gandhi Mothers' Support Scheme) [2010][40]	Cash (CCT)	*Pregnant and lactating women* within 6 months postpartum. Only for women aged ≥19 years, for first 2 live births, and up to 6 months postpartum. Government employees not eligible.	To improve health and nutrition of pregnant and lactating women, and infants by promoting appropriate care and service utilisation during pregnancy, safe delivery and lactation To encourage optimal feeding practices, including early and exclusive breastfeeding for 6 months To compensate in part for income loss before and after childbirth	USD112 in 3 instalments, from second trimester until 6 months after childbirth	Meeting the following conditions: Registration of pregnancy at health facility <4 months of pregnancy; ≥1 ANC visit with iron/folic acid tablets and tetanus toxoid; ≥1 counselling session; institutional delivery and early initiation of breastfeeding; registration of birth of child; child immunisations and attendance at ≥4 growth monitoring counselling; exclusive breastfeeding for 6 months; introduction of certified complementary feeding by mother.	Not stated

Continued ...

Table 2. (continued) Design features of programmes providing maternity and early child support in LMICs

			Beneficiary selection and support objectives		Type of support		
Row no.	**Country: programme name [year began]**	**Form of support**	**Target groups (italics) and eligibility criteria**	**Key objectives of support programme**	**Value and method of support***	**Conditions attached to support**	**Support management, how administered**
6	**Kenya:** Reproductive-Health Output-Based Aid (RH-OBA) voucher pilot programme [2006][41-44]	Vouchers	*Pregnant women below poverty threshold* (those scoring low on a 14-item poverty grading tool measuring food security, household assets and access to healthcare). Targeting women in informal settlements in several cities and rural districts.	To increase facility births among poor women in formal settlements, and thus reduce maternal and neonatal mortality To improve access to health services for poor women through incentives for increased demand and improved service provision	Vouchers purchased for USD2.50. Voucher for 4 ANC visits, a facility-based delivery including CS if necessary, treatment of maternal and neonatal complications, and PNC.	Not stated	Eligible women buy vouchers; facilities reimburse USD12.50 for clients completing ANC visits, USD50 for normal delivery and USD250 for a CS. Additional complications also reimbursed. Providers accredited. Funded by international donors and government of Kenya.
7	**Mongolia:** Social assistance maternity benefits [2005][45]	Cash	*Pregnant women.* Provided to all women after 196 days of pregnancy who are ineligible for social insurance (have not paid insurance contributions). Women receiving social insurance get maternity benefits in separate programme. Infant benefit only for very poor families (unrelated to twin benefit).	Not stated	Short-term benefit set at minimum wage level, given for 4 months. Also 'twin benefit', a once- only payment to parents of twins.	None	Not stated

Continued ...

Table 2. (continued) Design features of programmes providing maternity and early child support in LMICs

Row no.	Country: programme name [year began]	Form of support	Beneficiary selection and support objectives: Target groups (italics) and eligibility criteria	Beneficiary selection and support objectives: Key objectives of support programme	Type of support: Value and method of support*	Type of support: Conditions attached to support	Support management, how administered
8	**Nepal:** Safe Delivery Incentive Programme (SDIP) [2005][46-48]	Cash (CCT)	*Pregnant women nationwide.* Initially, women eligible only if they had had <2 living children (to avoid potential risk of programme increasing fertility) or with an obstetric complication on a prespecified list. In 2007, eligibility criteria removed and all women eligible.	To reduce maternal mortality and morbidity To raise SBA coverage, addressing demand-side barriers More broadly, to contribute towards poverty reduction by preventing mortality and disability, and reducing costs of delivery care	Amount varies according to accessibility: USD7.8 in plains districts, USD15.6 in hill districts and USD23.4 in mountain districts. Accompanied by incentives to access provider and free delivery care if women come from 25 least developed districts.	Delivery in health facility	Health centres disburse cash.
9	**Pakistan:** Jhang and Dera Ghazi Khan City, Punjab, Jhang voucher scheme [2008][49,50]	Vouchers and cash	*Pregnant women in poor households* (poorest two quintiles), identified by outreach workers, using score sheets or specific criteria.	To increase utilisation of ANC, PNC, institutional delivery and family planning among poor women	Voucher booklets valued at USD48 but sold for USD1.3, covering 3 ANC visits, institutional delivery, a PNC visit and postnatal FP visit. Women were given cash for transport in Jhang: USD1.2 ANC, USD6.0 normal delivery, USD14.3 CS, USD1.8 FP visit, lower amounts in other site.	None	Providers reimbursed by project.
10	**Uganda:** Reproductive Health Voucher Project (RHVP), 'Healthy Baby' vouchers [2008][44,51]	Vouchers	*Poor pregnant women.* Tools including local markers of poverty or vulnerability used to screen for poverty.	To increase poor women's access to quality healthcare services	Vouchers sold for USD1.5, to be used at private or non-profit providers for ANC, childbirth and PNC visits for complications, as well as for transport.	None	Marie Stopes acts as a voucher management agency, and sells vouchers. Vouchers can be redeemed at multiple providers. Funded by international donors and government of Uganda.
11	**Uganda:** Saving Mothers, Giving Life (SMGL) [2012][52]	Vouchers and birth hampers	*Pregnant women in rural districts*	To reduce maternal mortality	Vouchers for transport and access to private facilities. Birth hampers for women.	None	Vouchers distributed by private facilities. Funded by international donors.

Continued ...

Table 2. (continued) Design features of programmes providing maternity and early child support in LMICs

Row no.	Country: programme name [year began]	Form of support	Beneficiary selection and support objectives: Target groups (italics) and eligibility criteria	Beneficiary selection and support objectives: Key objectives of support programme	Type of support: Value and method of support*	Type of support: Conditions attached to support	Support management, how administered
12	**Zambia:** Saving Mothers, Giving Life (SMGL) [2012][52]	Vouchers and birth hampers	*Pregnant women in rural districts*	To reduce maternal mortality	Vouchers for transport and access to private facilities. Birth hampers for women.	None	Vouchers distributed by private facilities. Funded by international donors.
Programmes providing pregnancy and childbirth support, where pregnant women are targeted along with other groups							
13	**Argentina:** Programa Familias (Programme Families for Social Inclusion) [2002][53]	Cash (CCT)	*Pregnant women, children under 18, or disabled.* Targets families with >1 child.	Not stated	USD19 - 38 per month	Bimonthly ANC visits; compliance with immunisation schedule; school enrolment and regular attendance	Paid to mother through debit cards.
14	**Bolivia:** 'Juana Azurduy' stipend [2009][15,54]	Cash (CCT)	*Pregnant women, newborns and infants.* Families with low income eligible with conditions; families in extreme poverty eligible with no conditions.	To reduce maternal mortality and extreme poverty	CCT payments to pregnant women totalling USD260, in instalments over 33 months	Attending regular ANC and PNC check-ups until child is 2 years old and having SBA present during birth. Also ≥85% of monthly school hours for children aged 7 - 17 years.	No longstanding grant administration structure available in country.
15	**Brazil:** Bolsa Familia programme (Family Fund) – incorporated the previous Bolsa Alimentação (Nutrition Stipend) [2004][28,55,56]	Cash (CCT)	*Poor families; families with a pregnant or lactating woman; families with a child/children aged 0 - 17 years.* Some geographical targeting. Families are means tested and a national register is maintained.	To mitigate poverty by making long-term investments in human capital and thus interrupting intergenerational poverty cycles To combat hunger and promote food and nutrition security To promote access to health, education and social services	Cash payment through debit card. Amount depends on degree of poverty and family composition: USD6.25 - 18.70 per household each month. Represents ±0.5% of GDP.	Attending ANC and PNC visits; participation in educational health and nutrition seminars offered by local health teams; vaccinations for pregnant and breastfeeding women and children aged <7 years; attendance at school for ≥85% of monthly school hours for children aged 7 - 17 years.	Administrative cost 4% of programme budget. Largely the responsibility of families to ensure conditions are met.

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Table 2. (continued) Design features of programmes providing maternity and early child support in LMICs

			Beneficiary selection and support objectives		Type of support		
Row no.	Country: programme name [year began]	Form of support	Target groups (italics) and eligibility criteria	Key objectives of support programme	Value and method of support*	Conditions attached to support	Support management, how administered
16	**El Salvador:** Comunidades Solidarias Rurales (Supporting Rural Communities), formerly Red Solidaria (Solidarity Network) [2005][56-61]	Cash (CCT)	*Families with pregnant women or children aged under 15 years*. Geographical targeting of poorest 100 municipalities – support only provided to families in extreme poverty within these municipalities. In rural areas, censuses carried out in each municipality to identify eligible recipients. In urban areas, selection by proxy means testing.	To alleviate poverty, with a focus on rural areas, and breaking intergenerational effects of poverty To assist extremely poor families through short-term improvements in MCH, nutrition, education, water and sanitation, electricity and roads Fixed fee per family chosen to favour smaller families, owing to fears of fertility incentives	Initially a maximum USD20 per family per month	Recipients sign agreement (called 'co-responsibilities') to use cash for food. Support conditional on pregnant women attending all ANC visits, registering children at healthcare facilities, vaccination and child health monitoring programme. In practice conditions not monitored. Funds for 3 years, then eligibility re-evaluated.	Initially a bimonthly payment, usually to mother, from municipality main square. More recently, for families with children aged <5 years or pregnant women, a health voucher given as monthly cash transfer of USD15 that they can exchange for services received at the health facility.
17	**Ethiopia:** Meket Livelihoods Development Project [2003][62]	Cash	*Poorest households* in each community, following established practice in Ethiopia, where eligible people are identified through the local Peasant Associations, which assess livestock ownership, land access and performance in previous harvest.	To help vulnerable households with 'essential food expenditure' in difficult years, and to invest in assets in better years To bridge gap between 'welfarist' and 'development' goals To contribute to diversification of livelihood options, enhance community-level assets, and stimulate rural economy	About USD3.50 per person per month, varying seasonally. Cash amount increases with household size, e.g. a 5-person household receives USD17.50.	Those able to work have to work for cash. Those who cannot or should not work are eligible for the unconditional cash transfer (pregnant/lactating mothers, older people, children, and those with disabilities).	Not stated

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Table 2. (continued) Design features of programmes providing maternity and early child support in LMICs

			Beneficiary selection and support objectives		Type of support		
Row no.	**Country: programme name [year began]**	**Form of support**	**Target groups (italics) and eligibility criteria**	**Key objectives of support programme**	**Value and method of support***	**Conditions attached to support**	**Support management, how administered**
18	**Ethiopia:** Productive Safety Net Programme (PSNP) [2005][62]	Cash, vouchers, and cash-for-work scheme	*Pregnant and lactating women, and other groups in areas with food insecurity* as well as economically active *'middle poor'* households. Eligibility assessed using existing administrative and community information sources.	To reduce poverty To assist the 'productive poor' 'Development' objectives rather than 'welfarist' safety nets	Support for 5 years, after which recipients are expected to 'graduate' out of poverty and dependence on transfers. Average USD17 per capita/year plus food – total value can vary substantially.	Initially support was linked to work, but condition removed as effects of work on women's health and exclusive breastfeeding were recognised.	Donor funded
19	**Ecuador:** Programa Desnutrición Zero (Zero Malnutrition Programme) [2010][54,63,64]	Cash (CCT)	*Pregnant and postpartum women, infants.* Targets parishes with high malnutrition. Only households with pregnant or breastfeeding woman or with infant eligible. Recipients must prove they have lived ≥6 months in a local community participating in the programme, except in Quito and Guayaquil cities, where they must be eligible to receive the Human Development Voucher.	To eliminate fetal and infant malnutrition, and improve attendance at antenatal and infant care	Up to USD110, with USD10 for each ANC visit (maximum 5 visits) and USD60 for giving birth at a health centre and attending PNC and child visits in first year (maximum 6 visits).	Attending an education and sensitisation programme for mothers, where they learn about nutrition and care during pregnancy and for infants	Not stated

Continued ...

Table 2. (continued) Design features of programmes providing maternity and early child support in LMICs

			Beneficiary selection and support objectives		Type of support		
Row no.	Country: programme name [year began]	Form of support	Target groups (italics) and eligibility criteria	Key objectives of support programme	Value and method of support*	Conditions attached to support	Support management, how administered
20	**Guatemala:** Mi Familia Progresa (My Family Progresses) [2008][56,65]	Cash (CCT)	*Poorest households within poorest municipalities, with a pregnant woman or child aged 0 - 6 years.* Geographical targeting of municipalities with high rates of extreme poverty, and proxy means testing.	To alleviate poverty	USD18.4 lump sum. Same amount for children aged 6 - 15 years who remain in school.	Attendance at scheduled clinic check-ups for pregnant women and children aged 0 - 16 years, and ≥90% school attendance. Attendance at training and capacity building sessions for women on health and nutrition. Households sign 'co-responsibility' agreement with authorities.	Concerns about corruption in project
21	**Honduras:** Programa de Asignación Familiar PRAF II (Family Grants Programme)[13,56,66] [PRAF began 1990, became PRAF II in 2000]	Vouchers	*Pregnant and breastfeeding women and extremely poor families with minors aged 0 - 15 years.* All households in the 130 most vulnerable municipalities in terms of malnutrition and low family income (as recorded in census) are eligible. Pregnant women must provide proof of pregnancy.	To increase demand for preventive healthcare for pregnant women, new mothers and children aged <3 years To complement income of poor To reduce food insecurity and alleviate malnutrition during economic adjustment	Value of voucher market rate for 1 day agricultural labour during coffee harvest. Exchangeable for cash throughout country. Women receive USD4.30 per month of pregnancy or with child under 3. Family subsidies about USD20/month per family and USD20 education subsidy, regardless of number of eligible children.	Vouchers to children aged 6 - 12 years conditional on school attendance (max. 2 recipients per house). Attendance at 5 ANC visits, PNC within 10 days of childbirth, and child services. In practice, vouchers not withheld for non-compliance.	Paid biannually to mother through government-owned bank (BanRural). Administrative cost 5% of programme budget.
22	**India:** Sambhav ('It is possible') [2006][67]	Vouchers	*Pregnant women and women of reproductive age,* as well as *below-poverty line households and slum residents* in northern India (three priority states: Uttar Pradesh, Uttarakhand, and Jharkhand)	To increase access to high-quality private sector services	Vouchers cover range of ANC, childbirth, PNC, neonatal and family planning services	None	Choice of accredited private providers. Community workers (such as ASHAs) identify poor households, distribute vouchers and information. Funded by international donors and state government.

Continued ...

Table 2. (continued) Design features of programmes providing maternity and early child support in LMICs

			Beneficiary selection and support objectives		Type of support		
Row no.	Country: programme name [year began]	Form of support	Target groups (italics) and eligibility criteria	Key objectives of support programme	Value and method of support*	Conditions attached to support	Support management, how administered
23	**Indonesia:** Program Keluarga Harapan (Hopeful Family Programme) [2007][56,68]	Cash	*Pregnant or lactating women, children aged 0 - 18 years in the poorest households.* Proxy means testing.	To alleviate poverty To reduce maternal and infant mortality	Between USD50 and USD184 for up to 6 years, depending on household composition. Recipients also automatically eligible for AskesKin (health insurance for the poor) and Bantuan Opersional Sekolah (school fee waiver and transportation assistance) programmes.	Pregnant and lactating women attend ANC and PNC, according to Department of Health protocols. Children aged 0 - 6 years attend clinic. Children aged 7 - 15 years enrol and attend ≥85% of school days. Children aged 15 - 18 who have not completed 9 years of basic education enrol until they complete 9 years.	Cash paid through local post offices directly to mother or woman caring for children in three instalments per year.
24	**Jamaica:** Programme of Advancement through Health and Education (PATH) [2001][56,69]	Cash	*Poor pregnant or lactating mothers, and other groups such as elderly and disabled.* Proxy means testing, with several variables.	To provide a meaningful level of benefit via a cost-efficient and accessible delivery system, with benefits linked to desirable behavioural changes that promote investment in human capital, especially children	Approximately USD9 per eligible household member, no family cap	Initially conditional on attendance at clinics, conditionality discontinued shortly after programme launch.	Programme consolidated existing cash and in-kind transfer programmes, with improved targeting.
25	**Mexico:** Progresa (Progress), renamed Oportunidades (Opportunities) in 2001 [1997][10,11,20,70-73]	Cash (CCT), food and educational benefits	Transfers initially only to *poor rural households,* expanded to *urban areas* since 2001. Amount given depends on demographic structure of family. Means testing and geographical targeting to reach the poorest 20% of the rural population.	To target poverty by alleviating immediate suffering and breaking the intergenerational transmission of poverty by inducing parents to invest in children's development	Health benefits of USD17 per household per month; fortified food given to pregnant and lactating women; educational benefits to children, depending on grade at school. 0.3% of GDP spent on programme.	Attendance at 5 ANC check-ups, nutritional supplementation, educational programme on health and nutrition, birth attendance, 2 PNC check-ups	Paid to mother's savings account bimonthly. Close monitoring of conditions, costing an estimated 18% of total budget.

Continued ...

Table 2. (continued) Design features of programmes providing maternity and early child support in LMICs

			Beneficiary selection and support objectives		Type of support		
Row no.	Country: programme name [year began]	Form of support	Target groups (italics) and eligibility criteria	Key objectives of support programme	Value and method of support*	Conditions attached to support	Support management, how administered
26	**Mozambique:** Gabinete de Apoio à População Vulnerável GAPVU (Cabinet for the Support of Vulnerable People) [1990][74]	Cash	Targets *destitute urban households,* households with *pregnant woman with nutritional problems* (anaemia and low weight gain), *female-headed households with ≥5 children*, and other groups.	To create an urban safety net To reduce poverty among destitute urban households	Transfer of approximately USD1 per month, benefits adjusted to household size. Pregnant women receive benefit from time enrolled until 6 months after childbirth.	None	Pregnant women with poor nutrition identified by ANC staff, who refer women to programme.
27	**Nigeria:** Care of the Poor (COPE) [2008][75]	Cash	*Female-headed households, pregnant women,* other groups. Communities are targeted, with means testing.	Not stated	Monthly cash transfer (basic income guarantee), depends on number of children per household: 1 = USD9; 2 - 3 = USD18; ≥4 = USD31.	Pregnant women must show evidence of attending ANC. Other conditions for other groups.	Paid by microfinance agencies and local community banks, usually to mothers.
28	**Panama:** Red de Oportunidades (Network of Opportunities) [2004][60,76]	Cash (CCT)	*Families living in extreme poverty.* Initially households selected through geographical targeting and proxy means test. Implemented first among indigenous and rural populations, and later in urban areas.	To increase use of health, education and capacity-building services To alleviate poverty and promote social inclusion	Monthly payments of USD35 until 2008 and then USD50 per family	Pregnant women must show evidence of attending ANC and PNC, and regular check-ups for children aged <5 years.	Payments disbursed bimonthly. Cash transfers made to women heads of households.
29	**Paraguay:** Red de Protección y Promoción Social (Social and Protection Network), Tekopora [2005][58]	Cash (CCT)	*Pregnant women in extreme poverty and children aged <14 years, rural* areas only	To contribute to reduction in extreme poverty, and increase human and social capital	Monthly payments for food (USD10); health and education: USD5 per child aged 0 - 14 years old, ≤4 children/household. Minimum USD15 (if 1 child); maximum: USD30 (if ≥4 children).	Visits to facilities for ANC, PNC and child health; and attendance at early child stimulation centres and school. Recipients sign agreement.	Bimonthly payments to mother through banks. Administrative cost ±10% of programme budget.

Continued ...

Table 2. (continued) Design features of programmes providing maternity and early child support in LMICs

			Beneficiary selection and support objectives		Type of support		
Row no.	Country: programme name [year began]	Form of support	Target groups (italics) and eligibility criteria	Key objectives of support programme	Value and method of support*	Conditions attached to support	Support management, how administered
30	**Peru:** Programa Juntos (Together) [2005][14,54]	Cash (CCT)	*Households with a child aged <14 years* and *below the poverty line.* Targets poorest districts, and then households and community validation, including through local assemblies. Explicit focus on populations previously affected by political violence.	To target childhood poverty, provide a model for social protection, promote productive activities for women, human capital development To break intergenerational transfers of poverty	Monthly payment of approximately USD30. Information elements revised in 2010, to also include leaflets, promote savings culture and safe drinking water.	Attendance at ANC, PNC and capacity-building programme on child development; receiving childhood vaccinations; vitamin A, iron, and folic acid supplement; and participating in nutritional, reproductive health, and food cooking 'chats'. 85% school attendance. Mothers sign agreement to adhere to grant conditions for 4 years, which can be extended.	Cash paid to mother's bank account. Civil society involved in programme, target groups provide key inputs.
31	**Philippines:** Pantawid Pamilyang Pilipino Programme [2008][56]	Cash (CCT) and education grant	*Poor households with pregnant women or children aged <5 years.* Education grant for children aged 6 - 14. National household targeting system based on proxy means testing.	To alleviate poverty	USD11 given per household per month, regardless of number of children, and USD7 per month for 10 months per year, up to a maximum of 3 children. Also includes nutrition, breastfeeding seminars, family planning sessions for parents.	Pregnant women and children attend preventive health check-ups and receive immunisations, according to the Department of Health's protocol. Children enrol in schools and attend >85% of school classes.	Paid to mother through Land Bank of Philippines (cash cards and payroll).
32	**Turkey:** Social Risk Mitigation Project [2001][56,77]	Cash (CCT)	*Poor families with children aged 0 - 6 years or in school,* and *pregnant women* (poorest 6% of population). Proxy means testing.	To alleviate poverty	Grant of USD13/month during pregnancy and 2-month lactating period postpartum. USD41 for delivery at clinic. 0.14% of GDP spent on programme.	Pregnant women to visit clinics. Single payment for giving birth at clinic. Children required to attend ≥80% of education days and not repeat grades.	Paid to mother through bank or postal service (for areas without a bank branch).

CCT = conditional cash transfer; PNC = postnatal care; FP = family planning; NGO = non-governmental organisation; CS = caesarean section; ASHA = accredited social health activist; GDP = gross domestic product; MCH = maternal and child health.
*All amounts are given as US dollars (USD).

Three programmes that initially imposed such conditions later dropped them (Bangladesh, row 1; India, row 4; Nepal, row 8).

Types of support

Six projects consisted of cash transfers only, with no conditions or explicit attempts to create linkages with health services. A further 14 of the 32 programmes also involved cash support only, but tied this to conditionalities around ANC attendance, having an SBA or postpartum care visits. The remaining 12 used means other than cash to promote linkages between support and service utilisation. A Cambodian scheme, for example, provided cash and vouchers for attending health services (row 2). Voucher coupons were used for visits to health facilities (including for private sector providers), institutional delivery and transport costs. Other strategies included providing gift hampers for women, nutritional supplementation and education, and cooking or counselling sessions at facilities in addition to cash or vouchers. In many projects, the inclusion of multiple types of support meant that parallel administrative systems were required. Grants in Latin America mainly adopted the conditional cash transfer approach, although in Bolivia (row 14) and a few other instances, families in extreme poverty also received non-conditional payments.

Amount of support and payment mechanisms

The value of cash transfers varied considerably, from relatively small amounts (e.g. USD1 per month in Mozambique, row 26) to USD260 paid to pregnant women in Bolivia, who receive instalments until the child is 2 years old (row 14). In some programmes the amounts given to pregnant women varied, with higher amounts provided in areas that were poorer, more remote, or had lower coverage of services (India, row 4; Brazil, row 15). In several instances, benefits given during pregnancy were a supplement to the support already provided by the state to poor families.

In cash-based programmes, payments were mainly made to debit or savings cards (Argentina, row 13; Brazil, row 15; Mexico, row 25; Peru, row 30; Philippines, row 31; Turkey, row 32). Money was also disbursed through health centres and postal services (Indonesia, row 23; Turkey, row 32), and even from the main square of municipalities (El Salvador, row 16). Cash was even home-delivered in one instance in India. Payments were usually made monthly, but some were bimonthly or even once off. One project gave a once-off payment to parents of twins (Mongolia, row 7).

Practical experience with implementation

Many of the smaller donor-funded projects encountered serious implementation issues, although these problems were also experienced by some of the larger ones. Communication with people eligible for support emerged as a problem in Nepal, for example, where a study showed that only 27% of the eligible population were aware of the grant (row 8). In contrast, in Uganda 90% of women were aware of the scheme, thanks to use of mass media such as radio (row 11). Finally, some reports of corruption were noted. This involved, for example, health workers taking money intended for pregnant women, and giving vouchers to ineligible women in programmes that paid commissions to staff for each voucher distributed (Kenya, row 6).

In many instances, programmes that used complex procedures for determining eligibility struggled to identify individuals requiring support, even ending up with the lowest uptake among the poorest women (India, row 4; Nepal, row 8). Some problems were also noted with cash disbursement processes; for example, women in Mozambique waited on average 7 hours at collection points, and payments were often delayed by several months (row 26). Women in Peru had high transport costs to reach a designated bank for grant collection (row 30).

Rigour in monitoring compliance with conditionalities varied markedly between projects. In some, there was little or no attempt to enforce conditions. For example, in El Salvador instalments were paid without confirming attendance at services, and recipients simply had to sign an agreement that they would use the money for food (row 16). Programmes with more rigorous measures to monitor conditionalities appeared to have higher administrative costs. Administrative costs ranged from 4 - 5% of the overall budget in areas with relatively lax controls (Brazil, row 15; Guatemala, row 20) to an estimated 18% in Mexico (row 25). High costs of monitoring conditionalities and other operational expenses in Nepal meant that only half the money in the programme was used for disbursements (row 8). Some programmes reported that they were able to resolve initial administrative constraints and gradually improve the scheme's performance (Bangladesh, row 1; Nepal, row 8). Not surprisingly, eligibility procedures and payment methods were often simplified over time (Bangladesh, row 1; India, rows 3 and 4), and several programmes dropped some or all conditionalities (India, row 4; Jamaica, row 24).

Discussion

This article summarises experiences in LMICs with the design and implementation of grants to support women during pregnancy. Overall, the evidence indicates that feasibility and efficiency were highest where programmes achieved economies of scale through integrating support for women and children within one system, and adopting simplified procedures, including uncomplicated enrolment and disbursement procedures, cash-only support, and few or no conditionalities (Table 3).

Aside from the absence of pregnancy support, the SA social support programmes closely resemble those in Latin American countries. Extending the existing CSG to begin in pregnancy would ensure further alignment with those projects, and move closer to attaining the benefits that women and children have gained there. A pregnancy support grant would also help align women in the formal sector with other women who are more at risk. While the formal sector has long acknowledged the need to alleviate the financial burdens of pregnancy through maternity leave benefits, women in the informal sector are generally excluded from such assistance, as are unemployed women.

Attendance at ANC and facilities for childbirth can be linked to pregnancy support at very low cost through, for example, requiring women to bring an ANC card when enrolling in support. Lack of ANC attendance remains a key cause of maternal deaths and of mother-to-child transmission (MTCT) of HIV in SA.[78] ANC coverage is about 90%, similar in all socioeconomic quartiles, but far fewer women in the poorest quartile attend ANC before 20 weeks (57% v. 89% in the highest quartile) or have an SBA (92% v. 98% in the highest quartile).[2]

To obtain maximum benefit, pregnant women would ideally initiate support as soon as pregnancy is diagnosed. Surprisingly, therefore, in the programmes reviewed, support was seldom configured to incentivise women to initiate support and attend ANC early in pregnancy. Earlier attendance would reduce risk of MTCT of HIV, as the earlier in pregnancy women initiate antiretrovirals, the lower the risk of transmission.[79] It would also allow for the nutrition benefits described above. Beginning support in pregnancy would mean that the critical neonatal period would be covered, a major deficiency of the present CSG. Processing delays mean that currently support only begins several months, or even years, after birth.

Table 3. Lessons for SA from the international experience with designing and operationalising pregnancy support

Characteristic	Lessons
Objective of support	Aim to improve maternal and child health and to increase early ANC attendance and SBA coverage, but also to make a major contribution to broader socioeconomic development goals. Frame support during pregnancy around improving infant and child health, which requires targeting the *in utero* and neonatal period, to overcome concerns about perverse incentives.
Scope of support	Integrate support for pregnant women with that for children, aiming for a life-course approach, recognising that the health of the mother, fetus and child are inseparable. Use a single grant administration system for both pregnant women and children, where grants for eligible pregnant women automatically become CSGs once the child is born. Incorporating a national programme into existing CSG systems will lower transaction costs and result in other economies of scale.
Overall programme complexity	Use simple means of identifying the target group and provide cash-only support. Have minimal or no conditionalities, aside from requiring women to bring an ANC card when enrolling in support.
Overcoming political and public concerns	Concerns of policy makers and the public about the grant incentivising pregnancy may be alleviated by including design features to discourage such incentives, for example, by restricting support to women aged >19 years or to the first two pregnancies. Such restrictions affect the most vulnerable groups and would reduce programme impact, but may be necessary to secure initial support for the programme. As evidence accrues or advocacy from civil society grows, a decision could be made to remove such restrictions.
Type of support	Cash transfers are easier to administer than multifaceted support, which necessitates parallel administrative processes. Use the large body of local and international evidence to reassure policy makers that women will spend grant money on food, transport to health facilities and preparation for the child.
Payment method	Use existing national structures, such as those for CSG and pension pay-outs. Use of monthly payments may reduce concerns of policy makers about misuse of funds.
Value of support for pregnant women, relative to other groups	Pregnant women require higher levels of support than many other groups, including children. Doing so acknowledges the costs of pregnancy, and that pregnancy reduces women's ability to work, and recognises the contribution of women to society through pregnancy and childbearing.
Identifying eligible groups	Use simplified procedures, such as the existing CSG mechanisms. Minimise delays in processing of applications so that support begins early in pregnancy. Targeting of geographical areas may be considered, especially in districts with low ANC or SBA coverage. These could be framed as a pilot, from which evidence is drawn on effectiveness and grant administration.
Timing of support	Start support as early as possible in pregnancy, to optimise its impacts on birth weight and child development. Early support would incentivise early ANC booking, and increase the duration of ARVs during pregnancy, important for PMTCT. Having social support already available at childbirth ensures coverage of the critical neonatal and infant period (the CSG is often only commenced after infancy).
Use of conditionalities to link utilisation of health services with support	Ensuring compliance with conditionalities would be onerous for health staff and administration systems. Simple means of incentivising service use could include requiring an ANC card as proof of pregnancy and proof of a facility delivery for conversion of a pregnancy grant into a CSG.
Communication strategy	Use of media, such as the MomConnect mHealth platform and radio, could inform potential recipients of the grant, address public concerns, and mobilise broader social and political support.
Potential for corruption	Attention is needed to what 'proof of pregnancy' is needed when applying for support. Use of ANC cards and perhaps a urine pregnancy test at the time of application may minimise corruption risks. Use existing structures for CSG applications when transitioning pregnancy support to a CSG.

ARVs = antiretrovirals; PMTCT = prevention of mother-to-child transmission of HIV.

Means testing, based on income, is currently used for determining eligibility for the CSG and pensions in SA, and could be applied similarly during pregnancy. Alternative approaches to means testing may include measurement of things such as type of housing or number of productive assets, which could provide a more multidimensional measurement of poverty. However, these approaches involve

significant data collection and transaction costs. Doing away with means testing altogether and providing a universal grant for all women is one option, but this can become politically charged where poverty coincides closely with specific ethnic or political groupings. Similarly, strict implementation of conditions can end up penalising the most vulnerable, and would undermine the central purpose of the grant.

Further issues relating to eligibility include the need to legally verify pregnancy during enrolment in pregnancy support. Pregnancy confirmation could be ascertained through means such as a blood or urine pregnancy test from a certified laboratory, a urine pregnancy test done at the grant processing facility, and the use of antenatal clinic cards. A birth certificate could then be required to continue the grant after delivery.

Possible unintended consequences of maternity support

In addition to ensuring that the programme is designed optimally, the benefits of maternity support need to be weighed against any potential negative consequences. Fears of the potential for maternity and early child support to encourage childbearing, especially among young women, often lead to political and social hesitation to implement pregnancy support. These concerns often reveal underlying gender and class prejudices, and may well account for the absence of pregnancy support in SA to date. Globally, the assertion that social welfare support creates a perverse incentive in the form of encouraging a higher incidence of pregnancy has been tested as far back as the 1970s, and found to be unsupported by research.[80,81] Moreover, several large studies in SA have demonstrated that providing the CSG clearly does not induce perverse incentives for pregnancy.[6,82,83] Nevertheless, to assuage the concerns of policy makers, it may be worth framing support around improvements in newborn and child health, rather than women's benefits. Features that explicitly discourage fertility could be included in the initial design of pregnancy support, even though this may initially impact most on vulnerable groups. These features could then be abandoned over time, as has occurred in other programmes.

Politicians and the public may also be concerned that women might spend grant money on non-essential or luxury items. The studies reviewed and evidence of CSG spending, however, show clearly that women use grant money for food and other essential goods. In the Brazil and Mozambique programmes, 60 - 70% of the cash transfer was spent on food, with proportions reaching 80% among families with severe food insecurity.[28,74] Grants raise both the volume and, even more importantly, the variety of food eaten.[20] In India, where health services were not free, women spent the majority of their grant money on accessing services.[36] No increase in spending on alcohol, tobacco or adult clothes was detected in El Salvador, but purchases of children's clothing and shoes rose.[57] Having multifaceted support, such as vouchers and cash, was seen as requiring parallel administrative processes, and is hard to justify when clearly monies are spent on food and access to care.

Limitations of this review

There is substantial heterogeneity between the programmes identified, as study settings, interventions and evaluation methods differed markedly. This limits the ability to directly compare studies and to draw overall conclusions. Additional evaluations of maternity support may have been missed, as studies examining the impact of such support are published in a broad range of fora, making it difficult to systematically identify all available evidence. Finally, much of the evidence located was of poor quality, limiting the ability to draw definitive conclusions.

Conclusion

A mother's nutritional status during pregnancy is a key determinant of her baby's weight at birth, and thus of childhood survival and life chances, as well as having intergenerational effects. Yet grants to enhance maternal health and wellbeing during pregnancy are not currently provided in SA, and there is much uncertainty about how such a grant would be structured and implemented. Based on lessons learnt elsewhere, we conclude that a programme that provides cash only, has simplified enrolment procedures and is integrated within existing social grant systems would be feasible to implement.

Social assistance has short-term goals of relieving poverty, but also of accumulating human capital and thus reducing intergenerational effects of poverty, among other benefits. Pregnancy support is most uniquely able to achieve both goals, unlike emergency food relief, for example, which only addresses short-term imperatives. More generally, the overall benefits of cash transfers are established beyond doubt; the absence of pregnancy support in SA is a serious design flaw of the otherwise hugely successful CSG, and is long overdue.

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Appendix 1. Search strategy

1. Medline (PubMed) 9/7/12 (540 results)
(maternal[TI/AB] OR mothers[MeSH] OR pregnanc*[TI/AB] OR pregnanc*[MeSH]) AND (grant*[TI/AB] OR welfare[TI/AB] OR benefit[TI/AB])

2. Academic search complete (EBSCO Host) 10/7/12 (53 results)
((DE "MOTHER & child") OR (DE "PREGNANCY")) AND ((DE "MATERNAL & infant welfare") OR (DE "PUBLIC welfare policy"))

3. Educational Resources Information Centre (ERIC) 10/7/12 (20 results)
(DE "Pregnancy" OR DE "Mothers") AND (DE "Grants")

4. Psychology and Behavioural Sciences Collection 10/7/12 (5 results)
(DE "PREGNANCY" AND (DE "GRANTS (Money)" OR DE "MATERNAL & infant welfare" OR DE "PUBLIC welfare")

5. Global Health Library 17/7/12
Search 1 (49 results)
S1: ((((DE "pregnancy") OR (DE "mothers")) OR (DE "maternity services")) OR (DE "maternal nutrition")) OR (DE "child nutrition")
AND
S2: (((DE "grants") OR (DE "child welfare" OR DE "nutrition policy" OR DE "program participants" OR DE "social policy" OR DE "social services")) OR (DE "incentives")) AND (S1 and S2)

Search 2 (26 results)
S1 ((DE "grants") OR (DE "incentives")) OR (DE "social welfare")
AND
S2 ((DE "grants") OR (DE "incentives")) OR (DE "social welfare")
Search (32 results)
S1 (((((DE "maternity services" OR DE "health services") AND (DE "food distribution programs" OR DE "development policy" OR DE "emergency relief" OR DE "food security")) OR (DE "Food Stamp Program")) OR (DE "nutrition programmes")) OR (DE "government policy")) OR (DE "social welfare")
AND
S2: (((DE "pregnancy") OR (DE "children")) OR (DE "mothers")) AND (DE "low income groups")