Taylor & Francis
Taylor & Francis Group

Global Public Health

An International Journal for Research, Policy and Practice

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/rgph20

Addressing unmet social needs for improved maternal and child nutrition: Qualitative insights from community-based organisations in urban South Africa

Agnes Erzse, Chris Desmond, Karen Hofman, Mary Barker & Nicola Joan Christofides

To cite this article: Agnes Erzse, Chris Desmond, Karen Hofman, Mary Barker & Nicola Joan Christofides (2024) Addressing unmet social needs for improved maternal and child nutrition: Qualitative insights from community-based organisations in urban South Africa, Global Public Health, 19:1, 2329986, DOI: 10.1080/17441692.2024.2329986

To link to this article: https://doi.org/10.1080/17441692.2024.2329986

Published online: 29 Mar 2024.

GLOBAL PUBLIC HEALTH
2024, VOL. 19, NO. 1, 2329986
https://doi.org/10.1080/17441692.2024.2329986

Routledge
Taylor & Francis Group

Addressing unmet social needs for improved maternal and child nutrition: Qualitative insights from community-based organisations in urban South Africa

Agnes Erzse [a], Chris Desmond [a,b], Karen Hofman [a], Mary Barker [c,d,e] and Nicola Joan Christofides [e]

[a]SAMRC/Wits Centre for Health Economics and Decision Science—PRICELESS SA, School of Public Health, Faculty of Health Sciences, University of Witwatersrand, Johannesburg, South Africa; [b]School of Economics and Finance, University of the Witwatersrand, Johannesburg, South Africa; [c]School of Health Sciences, Faculty of Environmental and Life Sciences, University of Southampton, Southampton, UK; [d]MRC Lifecourse Epidemiology Centre, Faculty of Medicine, University of Southampton, UK; [e]School of Public Health, Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, South Africa

ABSTRACT

Maternal and child malnutrition persists globally, despite existing healthcare and social protection systems. Socio-economic disadvantages contribute to high malnutrition rates, particularly in poor urban communities where many disadvantaged mothers cannot fully benefit from services. To address these disparities, a novel social needs framework has been proposed, emphasising the importance of addressing individuals' unmet needs to enhance the benefits of nutrition services. This study investigates the perceived impact of community-based organisations (CBOs) in addressing the social needs of mothers in a resource-constrained urban township in South Africa. Interviews were conducted with 18 employees from 10 CBOs working on maternal and child health, food security and social support in Soweto. Thematic analysis revealed 23 services and four pathways through which CBOs believed to address unmet social needs of beneficiaries. Services were small-scale, including food aid, learning support, and social protection assistance, available to a few in dire need. CBO services partially addressed social needs of mothers due to scale, coverage, and sustainability limitations. The South African government should reaffirm its commitment to financially supporting the non-profit sector and integrating it into government sectors to provide tailored services and resources to address diverse social needs and mitigate nutrition inequalities among mothers and children.

ARTICLE HISTORY
Received 28 July 2023
Accepted 8 March 2024

KEYWORDS
Community-based organisation; social needs; maternal and child nutrition; nutrition inequities; South Africa

Introduction

Addressing malnutrition in all forms is one of the foremost objectives of the United Nations Decade of Action on Nutrition (United Nations General Assembly, 2016). Interventions to improve nutrition, particularly during the first 1000 days of life from conception to a child's second birthday, are critical for the growth and development of children, and for social and

CONTACT Agnes Erzse erzse.agnes@gmail.com SAMRC/Wits Centre for Health Economics and Decision Science—PRICELESS SA, School of Public Health, Faculty of Health Sciences, University of Witwatersrand, 27 St. Andrews Road, Parktown, Johannesburg 2193, South Africa

economic progress (Saavedra & Dattilo, 2017). Countries across the globe have adopted evidence-based actions to enhance early life nutrition, spanning health, agriculture and food systems, social protection, and water, sanitation, and hygiene (WASH) (Heidkamp et al., 2021). The specific combination of direct and indirect actions varies depending on each country's context. There is no one-size-fits-all approach. South Africa's support for maternal and child nutrition consists largely of interventions delivered through the primary health care system (English et al., 2017), and policies that constitute part of a well-developed social protection system. The latter includes food parcels for children at risk of or presenting with malnutrition, subsidised meals at registered early childhood development centres, and a Child Support Grant (South African Rand [ZAR] 500, [USD 25] per child as of 1 April 2023), a means-tested unconditional cash transfer programme for children from low-income households (May et al., 2020). Despite free primary health care services and social protection policies, South Africa grapples with persistently high rates of maternal and child malnutrition; 27% of children under the age of five have stunted growth, 61% of children and 31% of women of reproductive age are anaemic and 33% of mothers are overweight or obese (May et al., 2020). Further, in 2022 South Africa was recognised as the world's most unequal country, where the top 10% of the population held a staggering 71% of the country's wealth, while the bottom 60% of the population held only 7%, and earning gaps for women reached 38% (Sulla et al., 2022). Such extreme wealth and gender inequalities, coupled with unequal distribution of employment opportunities, adequate housing, and quality education have profound implications for maternal and child nutrition (Social Progress Imperative, 2019). Experiencing socio-economic disadvantages throughout the life course, where multiple challenges limit the ability of mothers and children to fully benefit from available services, leads to poor nutritional outcomes. This is evident through the striking inequalities in nutrition outcomes across socio-economic status and geographical location in South Africa; among the most vulnerable are urban poor communities (Jonah et al., 2018; National Department of Health et al., 2019). Soweto provides an example of how an adverse urban environment presents challenges for maternal and child nutrition. It is South Africa's largest post-apartheid working-class township primarily populated by Black South Africans, where multiple adversities coexist including crime, unemployment, violence, and substance abuse (Cele et al., 2021; Statistics South Africa, n.d.; Ware et al., 2021). Within this complex context, maternal and child malnutrition is much higher than the national average. There is a greater prevalence of stunting and obesity in children under the age of five (7 and 11 percentage points respectively) (Nyati et al., 2019), and maternal obesity is at 66%, almost double the national average (Prioreschi et al., 2017).

Understanding the shortcomings of South Africa's multifaceted initiatives in ensuring equitable access to and opportunities to benefit from services to support all mothers and children to obtain and maintain good nutrition has been the focus of a recent study by Erzse et al. (2023). The study, that this paper reports upon, is committed to understanding and addressing nutrition inequities, by establishing a context-specific evidence base in Soweto through the application of a novel social needs framework. The framework, specifically developed to support the broader objectives of the study, highlights that the effect of a given service, and the degree to which individuals realise the full potential of services offered is determined by individuals' social needs and the degree to which these social needs are met. The framework defines social needs as the requisites that can magnify (if met) or reduce (if unmet) the extent to which individuals can derive benefits from existing services. Operationalising this framework for the first time in the nutrition context in Soweto revealed a diverse range of domains that constitute social needs. These included financial planning, personal income stability, appropriate and affordable housing, access to government services, social support, and affordable healthier foods (Erzse et al., 2023). The study also found that these needs are not being met by social protection services and free healthcare services. Addressing social needs has shown potential for improving health outcomes and reducing inequalities in high-income settings (Williams et al., 2008). Understanding of, and

research on, social needs is scarce in low- and middle-income countries (Nisbett et al., 2017). This paper is part of an attempt to fill this research gap in South Africa by documenting examples of complementary approaches that can help mothers meet their needs at the community-level.

In a context where South Africa heavily relies on the non-profit sector for delivering welfare services to vulnerable populations (Patel, 2012), community level organisations are an obvious starting point for identifying social needs interventions. This paper draws on community-based organisations (CBOs) as primary information sources due to their proximity to and deep roots within the community. CBOs are well placed to observe and monitor community members, identify their unique needs and provide relevant assistance (Warshawsky, 2014). Nevertheless, it remains unclear whether and how they address these social needs. This paper describes the services provided by CBOs in relation to social needs of community members, and how CBOs perceive the impact of their services in enabling mothers and pregnant women to maximise available resources and optimise their nutrition outcomes. The paper uses a descriptive approach to depict the services provided by CBOs, without taking an evaluative stance.

Methods

This exploratory, qualitative research is part of a larger study, aiming to identify unmet social needs and priority interventions to enable mothers and pregnant women to fully benefit from available services and resources for maternal and child nutrition (Erzse et al., 2023). The preliminary focus was to develop a social needs framework and its application to the nutrition context in Soweto. The study included focus group discussions with pregnant women and mothers of infants (<1 years old) attending post- and antenatal clinics in primary health care facilities in Soweto and interviews with employees of CBOs working in the area. This paper draws upon interview data from these CBOs to map their services against social needs previously identified through conversation with women in the study area. These needs included financial planning, personal income stability, appropriate and affordable housing, access to government services, social support, and affordable healthier foods (Erzse et al., 2023).

Sampling

A purposive sampling technique was used to recruit employees of CBOs for semi-structured interviews. Sampling began by compiling a list of Soweto-based CBOs offering maternal and child health services, social support, and nutrition for children, mothers, and pregnant women. Out of the fifteen CBOs initially identified and contacted, ten responded to the invitation to participate. The ten CBOs, comprising our final sample, were invited to participate by email and a follow-up phone call. Potential interviewees identified by the CBOs were approached by the first author and invited to take part in the study. CBOs and study participants were identical to those included in Erzse et al. (2023).

Data collection

The first author, with expertise in qualitative interviews and community engagement in Soweto, conducted the interviews between February and May 2022. Participants were offered the choice of conducting interviews in their vernacular languages (isiXhosa, isiZulu, or SeSotho), but all opted for English. Interviews took place either in-person at the CBO or over the telephone and lasted approximately one hour. Approval from CBOs and written consent from all individuals involved in the study was sought prior to data collection. In the analysis presented here, data was supplemented by a document review of reports produced by participating CBOs. Detailed data collection methods are reported in Erzse et al. (2023) and summarised in Table 1.

Table 1. Overview of data collection methods.

Methodology	Information collected
Method 1: Semi-structured interviews with 18 employees from 10 CBOs working in Soweto. Interviewer: The first author. Language: English.	• The way CBOs determine their priority actions • The extent to which CBOs consider social needs and the way they address these • Other ways social needs could be addressed
Method 2: Document review of 6 annual reports produced by 6 of the 10 CBOs. Reviewer: The first author. Language: English.	• Social needs highlighted • Relevance of services in addressing social needs • Any evaluation of these interventions • Recommendations for further services

Data analysis

Interviews were digitally recorded and transcribed. Interview transcripts and documents were uploaded and coded using MAXQDA 2022 data analysis software (MAXQDA 2020, 2019) taking a framework analysis approach (Gale et al., 2013). Deductive coding was used to develop the initial analytical framework using categories of CBO characteristics and CBO services as they linked to the aforementioned six social needs that at the time of the study constrained mothers' ability to turn available services and resources into nutrition benefits (Erzse et al., 2023). Additional themes not captured by the predetermined framework included CBOs' perceived pathways of impact. These themes derived through thorough examination and analysis of the transcripts and documents, were captured through inductive coding, and were added to the analytical framework. The final framework was used to code all transcripts by AE, verified by co-authors. A matrix was developed in Microsoft Excel to capture and organise relevant data excerpts, quotes, or codes under specific themes of the analytical framework. Interpreting the data included exploring overlaps and gaps between CBO services and social needs. We defined gaps as cases where available services provided by CBOs addressed certain social needs, but the presence of other unmet needs prevented mothers from fully benefiting from the available services. The co-authors discussed data interpretation. Verbatim quotes have been selected to illustrate how participants' accounts were linked to identified themes. For confidentiality, the names of the CBOs and the participants have been replaced by pseudonyms. Reporting of the findings adheres to COREQ guidelines (Tong et al., 2007).

Ethics

The study has received ethical approval from the University of the Witwatersrand Human Research Ethics Committee (M210718) and the Research Committee of Johannesburg Health District (GP_202110_002).

Results

We report on the characteristics of CBO employees (Table 2) and the key features of the organisations they represent (Table 3). Next, we describe CBO services available at the time of the study, map these against the six social needs and report on four pathways through which CBOs described addressing these social needs (Table 4).

Characteristics of CBO employees

We interviewed 18 participants representing employees from 10 CBOs that service clients in 11 of the 40 plus suburbs in Soweto. All but one participant were women, reflecting the strongly gendered nature of non-profit sector in South Africa (Patel, 2009). On average, there were 2 participants per

Table 2. Participant characteristics.

Participants	CBO	Role at CBO	Gender	No of years working with CBO	Participant lives in area CBO serves
1	CBO1	Service provider	Woman	>4 (4)	Yes
2	CBO1	Service provider	Woman	>4 (4)	Yes
3	CBO1	Service provider	Woman	>4 (4)	Yes
4	CBO1	Service provider	Woman	>4 (4)	Yes
5	CBO2	Executive Director	Woman	>4 (4,5)	No
6	CBO1	Service provider	Woman	>4 (4)	Yes
7	CBO1	Service provider	Woman	<4 (1)	Yes
8	CBO3	Director	Woman	>4 (28)	Yes
9	CBO4	Social worker	Woman	>4 (6)	Yes
10	CBO5	Founder and Director	Woman	>4 (15)	Yes
11	CBO5	Social worker	Woman	<4 (1)	Yes
12	CBO5	Social worker	Woman	<4 (1)	Yes
13	CBO5	Social worker	Woman	<4 (1)	Yes
14	CBO6	Project Manager	Woman	>4 (>5)	Yes
15	CBO7	Founder and Director	Man	>5	Yes
16	CBO8	Project manager	Woman	>5 (6)	Yes
17	CBO9	Volunteer	Woman	>4	Yes
18	CBO10	Social worker	Woman	>5	No

CBO (range: 1–6). Participants were social workers ($n = 11$) and a volunteer ($n = 1$) who worked directly with beneficiaries, managers responsible for directing programmes and employees ($n = 2$), and founders and directors ($n = 4$). Thirteen participants reported working at their CBO for over 4 years, and 16 lived in the community they served.

CBO characteristics

Table 3 presents a list of primary beneficiaries, highlighting that the focus of eight CBOs (CBOs2–9) was specifically on improving the well-being of orphans and vulnerable children and adolescents (0–18 years of age); and two CBOs (CBO1 and CBO10) aimed to directly improve the well-being of women, including mothers and pregnant women. CBOs1, 2, 5, 8 engaged the families (partners, caregivers, mothers) of primary beneficiaries with the intent of ensuring more comprehensive and collaborative approach to support beneficiaries.

CBOs were established to address specific priorities such as a lack of early child development support, food insecurity, gender-based violence, teenage pregnancy, and school dropout. Although all CBOs recognised the overall deficit of services for mothers, only CBO1 was established specifically to fill this gap and prioritise the empowerment of mothers in the first 1000 days of life. Participant 3 explained that besides the services of CBO1, *I think the only service that's really there, and hardly, is the public health system. I haven't heard of anything else with a focus on moms* (CBO1).

To enrol beneficiaries in their programme, all but one CBOs had an open-door policy (e.g. potential beneficiaries could walk in and seek support), and 6 CBOs undertook community outreach. To determine what needs CBOs should prioritise *the first intervention is communication* explained Participant 7, because *you will never help me meet my needs until you have spoken to me* (CBO1). As such, needs and skills assessments were core component of CBOs' approaches to determine how best to help beneficiaries. Assessments were undertaken by social workers either at the CBOs or through house visits. Assessed factors included food needs, family dynamics, educational background, social-economic attributes, physical and mental health, employment history and skills.

Over time, CBOs have identified and adapted their approaches to address some of the socio-economic challenges that underlie their primary focus area. For example, Participant 5 believed that *the problem was poverty and lack of knowledge. The focus of the [feeding] scheme turned to health education and programmes, designed to help poverty-stricken people become economically independent* (CBO2). The gradual introduction of complementary services was believed to have a multiplicative positive impact on the lives of beneficiaries. By contrast *providing one service*

Table 3. CBO characteristics.

CBO	Primary beneficiaries	Primary Focus	Beneficiary enrolment	Ways priority actions are determined	Sustainability
CBO1	Mothers and pregnant women	Empower moms in the first 1000 days, prevent stunting	Open-door and outreach	Skills assessment	*Funding*: private foundations. *Partnership*: other CBOs. *Reporting:* yes. *Monitoring and evaluation*: yes.
CBO2	Children and adolescents (orphans and vulnerable)	Food insecurity	Open-door and outreach	Needs assessment	*Funding*: private foundations, government. *Partnership*: other CBOs, health system. *Reporting:* yes. *Monitoring and evaluation*: no.
CBO3	Children and adolescents (orphans and vulnerable)	Early childhood development	Open-door	Needs assessment	*Funding*: private foundations, government. *Partnership*: other CBOs. *Reporting:* yes. *Monitoring and evaluation*: no.
CBO4	Children and adolescents (orphans and vulnerable)	Childcare and development	Open-door and outreach	Needs, skills, and health assessment	*Funding*: private foundations. *Partnership*: other CBOs, health system. *Reporting:* yes. *Monitoring and evaluation*: no.
CBO5	Children and adolescents (orphans and vulnerable)	Child nutrition and development	Open-door and outreach	Needs, skills, and health assessment	*Funding*: private foundations, government. *Partnership*: other CBOs. *Reporting:* no. *Monitoring and evaluation*: no.
CBO6	Children and adolescents (orphans and vulnerable)	Child nutrition and development	Open-door	No data	*Funding*: private foundations. *Partnership*: other CBOs. *Reporting:* no. *Monitoring and evaluation*: no.
CBO7	Children and adolescents (orphans and vulnerable)	Provide care and support to children	Open-door	No data	*Funding*: private foundations. *Partnership*: other CBOs. *Reporting:* no. *Monitoring and evaluation*: no.
CBO8	Children and adolescents (orphans and vulnerable)	Keep girl children in schools	Open-door and outreach	Needs and skills assessment	*Funding*: private foundations. *Partnership*: other CBOs. *Reporting:* no. *Monitoring and evaluation*: no.

(*Continued*)

Table 3. Continued.

CBO	Primary beneficiaries	Primary Focus	Beneficiary enrolment	Ways priority actions are determined	Sustainability
CBO9	Children and adolescents (orphans and vulnerable)	Prevent child abuse and neglect	Open-door	Needs and skills assessment	*Funding*: private foundations, government. *Partnership*: other CBOs. *Reporting:* yes. *Monitoring and evaluation*: yes.
CBO10	Women	Prevent violence against women and children	Open-door and outreach	Needs and skills assessment	*Funding*: private foundations. *Partnership*: other CBOs. *Reporting:* no. *Monitoring and evaluation*: no.

here and another service there sometimes becomes a challenge – explained Participant 13 (CBO5). Evidence of the impact of these services was largely anecdotal, based on CBOs' perceptions and observations. Eight of the ten CBOs were without any formal monitoring and evaluation of their programmes, attributing this to the lack of resources. Two CBOs had commissioned external evaluators to undertake an independent evaluation of their programmes. However, the design of the evaluations was limited as there was no baseline data collection, there were very few indicators measured, and the sample sizes were small.

Insufficient funds also compromised some CBOs' capacity to sustain optimal functioning. Participant 11 explained that without adequate resources 'it becomes a challenge to offer and follow up on those services that we would like to offer. […] Doing door-to-door campaigns or the home visits needs personnel. If you are not funded, it becomes a challenge to sustain that.' (CBO5) Furthermore, insufficient funds to upgrade CBOs' infrastructure limited some CBOs' ability of formal registration with the provincial Department of Social Development, consequently depriving them of government subsidy. Only three CBOs received funding from the government, while the rest relied on financial and/or material support from private donors (e.g. individuals, companies). Additionally, some CBOs endured regular theft of equipment – a common crime in the township – including computers, furniture, and electricity. In a context of already scarce resources, Participant 12 felt demoralised and explained that *It's so tiring to be making a difference every time* (CBO5).

CBO services as they relate to six social needs

Table 4 documents twenty-three services provided by 10 CBOs as they relate to **six social needs** of mothers and pregnant women to ensure good nutrition for themselves and their children. Appendix 1 provides an extended overview of the distribution of services by CBOs. The most common services included *child educational support (8/10), referral to and assistance with governments services (7/10)* relating to needs of **access to civic services and welfare**. Half of our sample offered *skills assessment and links to jobs (5/10)* and *job readiness assistance (5/10)* to facilitate **access to labour market.** Relatively few CBOs assisted with *computer access and literacy (4/10)* and *day-care (ECD) (3/10)* in contrast to child education support.

To address needs **for social support** *individual psychosocial counselling (7/10), peer support (7/10), and recreational youth activities (6/10)* were offered by most CBOs. Only a small fraction of CBOs offered *family counselling (e.g. communication and relationship building) (3/10)* and *parenting skills and maternal identity (3/10)*, the latter understood as internal sense of confidence and competence in oneself when taking on the roles and responsibilities of being a mother.

CBO services relating to the need for **affordable healthier foods** included *access to community food gardens (6/10)* and *food assistance (6/10)*. The latter included daily cooked meal provisioning for children at three CBOs, food parcels at four CBOs, and supermarket vouchers provided to the caregiver of the beneficiary child at one CBO. Voucher recipients were also offered occasional shopping assistance. Furthermore, three CBOs raised mothers' awareness of optimal infant and child feeding practices and how to monitor children's nutritional status and on two occasions, CBOs offered cooking demonstrations (CBO1 and 5).

To assist beneficiaries meet their need for personal income stability, eight CBOs encouraged mothers to invest in entrepreneurial activities (e.g. saving up for small businesses of selling fruit and vegetables, buying seedlings and starting a garden). Half of the CBOs took concrete steps to act on the encouragement by offering *skills development training (5/10)* and providing a space for and help set up *income generating groups (4/10)* (e.g. sewing, baking co-operatives). As an immediate relief to beneficiaries without personal income stability, six CBOs provided *material assistance (e.g. clothing, toiletries) (6/10).*

A social need that remain largely unmet was **financial planning for nutrition**. Relatively few CBOs were involved in assisting mothers with *managing their resources (3/10)*. Furthermore, aside from the occasional donation of furniture (bed, cupboards) by one CBO and a *youth shelter* operating at another, the need for **affordable and appropriate housing** was largely unaddressed.

Perceived impact pathways of CBO services on social needs

We identified four pathways that capture how CBOs perceived their services help mothers and pregnant women meeting their social needs to support better nutrition. Table 4 links each CBO services with a pathway it relates to the most, based on CBO perceptions.

Freeing up personal income

CBOs saw mothers in the community to be financially on the edge and stressed about meeting their and their children's basic needs for food, and to pay for rent, electricity, diapers, and school-related expenses. Even though most mothers received the child support grant (ZAR 500, USD 25 as of 1 April 2023), it was considered insufficient to cover these costs. In turn, any service that lowered the demands on mothers' income helped to avoid potentially unhealthy cost management strategies, which included buying cheaper but less nutritious food, and re-prioritising food expenditure towards other basic needs.

The most direct ways CBOs eased mothers' financial burden was by cutting food expenses. Food assistance was the entry point and a core component of six CBOs (Table 4). Receiving free cooked meals, food parcels and/or vouchers, allowed mothers more resources for other needs, such as housing. Food assistance was recognised as an important safety net, but its long-term transformative impact was disputed by CBOs because of concerns about dependency: *We do give food parcels, but there's always a continuous need. So, I give you food today, tomorrow, you're going to need food. We need something that is sustainable* (Participant 11, CBO5). In this regard, access to food gardens was recognised as a longer-term solution by CBOs compared to direct food provisioning. At the same time, food gardens fulfilled a similar role because they released income that would otherwise have been spent on vegetables. CBOs observed that this increase in disposable income was then available for diversifying diets through purchasing additional food items, savings, or paying for other domestic needs. In the same way, assistance in terms of clothing and school uniforms for children, and toiletries for adolescent girls, was believed to allow mothers more resources for nutritious food.

CBOs felt that they also freed-up mothers' resources by offering affordable or free childcare. It not only meant that mothers could budget for one less daily meal for children, but it was also seen as integral to mothers' employment, enabling her to search for, and take up either formal or informal

Table 4. Overview of available CBO services and perceived pathways of impact on six social needs.

CBO services (no. of CBOs providing the service)	Perceived impact pathway	Social need
Resource management (incl. financial literacy) (3/10)	Promoting resourcefulness	Financial planning for nutrition
Fostering entrepreneurship mentality (8/10)	Promoting resourcefulness	Personal income stability
Skills development (e.g., sewing, beading, crafting, baking, planting) (5/10)	Improving mothers' asset base	
Income generating groups (4/10)		
Material assistance (e.g., clothing, toiletries) (6/10)	Freeing up personal income	
Furniture donation (1/10)	Freeing up personal income	Appropriate and affordable housing
Referral and assistance with government service (8/10)	Improving mothers' asset base	Access to civic services, welfare, and labour market
Job readiness assistance (e.g., writing CVs, printing documents, interview preparation, job search) (5/10)		
Skills assessment and links to jobs (5/10)		
Computer access and literacy (4/10)		
Child educational support (e.g., afterschool homework) (8/10)	Creating a supportive environment	
Day-care (ECD) (3/10)	Freeing up personal income, Creating a supportive environment	
Individual psychosocial counselling (7/10)	Creating a supportive environment	Social support *Psychosocial*
Family counselling (e.g., communication and relationship building) (3/10)		
Mental-health referrals (5/10)		
Parenting skills and maternal identity (3/10)		
Peer support groups (with interpersonal skills) (7/10)		*Community cohesion*
Recreational youth activities (e.g., poetry, sports, library, camps) (7/10)		
Food parcels (4/10)	Freeing up personal income	Affordable healthier foods
Food vouchers (1/10)		
Cooked meal provisioning (3/10)		
Access to community food garden (6/10)		
Parental nutrition and health education (e.g., child growth monitoring) (3/10)	Creating a supportive environment	

work. In this way, offering free childcare also helped to create a supportive environment (Pathway 4). Four CBOs also alleviated financial pressures on mothers by offering free access to computers, the internet and printing to those who were searching for jobs.

Improving mothers' asset base

The identification, mobilisation, and improvement of mothers' assets was recognised as key to help them meet their needs. Concerned by exacerbating already high dependency on CBOs food assistance and social protection services among mothers, most CBOs believed that combining welfare with income generating, entrepreneurial training was the best way to achieve the long-term goal of economic self-sufficiency. In this regard, five CBOs assisted beneficiaries in finding productive employment or self-employment by actively sharing job opportunities they identified through *reading a newspaper, or even as I'm on Facebook and websites that have job opportunities* (Participant 18, CBO10), or their network of local organisations. Participant 9 explained that at CBO4

> we also have employment agencies that we are working [with]. You encourage them [beneficiaries] to submit their CV so that if there's something that is coming out, they're already on that database […] they can be placed in that particular organisation.

Two of these CBOs provided follow up services to help mothers establish and maintain linkages with these opportunities.

CBOs acknowledged the limited opportunities for skill development and meaningful work in the Sowetan community. Five CBOs therefore provided opportunities for increasing earning potential through skills development, and four CBOs provided a space for and helped set up small businesses (e.g. sewing, baking co-operatives). Paradoxically, certain entrepreneurial initiatives that aimed to address economic precursors of poor nutrition, were concerned with making unhealthy food. Participant 13 described how a group of mothers at the CBO set aside monthly savings *to buy two kgs of flour, some cooking oil, and start making Makoenya [doughnut]. From that, you will get probably R50 [2.69 USD] and use that to try and build this until it grows* (CBO5). Irrespective of the business type, participants perceived CBOs services as having a transformative impact on mothers, resulting in heightened self-respect and a sense of purpose, improved mental and social well-being and empowerment through enhanced employability and greater control over additional resources.

Promoting resourcefulness

CBOs described their role in fostering resourcefulness and problem-solving abilities of mothers as an important way to help them meet their needs. From the perspective of CBOs, resourcefulness involved finding creative ways to acquire necessary income or items for mothers' basic needs. CBOs felt they played a crucial role in helping to identify and value resources that mothers possessed but may not have been aware of. CBOs felt they concentrated on leveraging mothers' existing strengths including skills, knowledge, and connections as opposed to focusing on their deficits. Participant 5 said

> Instead of looking at the problem of "I don't have money", I will constantly ask them "yes, you may not have money that you are working for, but which other spaces do you get money from?" Some will say, "maybe I get money there, I get money there" and it will just be a thing of how do you then utilise your money, how are you growing your money? Because it is not only about having money but spending it right. (CBO2)

In this regard, three CBOs also focused on improving mothers' financial management skills, including creating and maintaining a household budget, setting long-term financial goals and financial decision-making that benefitted their family's nutrition. Nevertheless, Participant 8 acknowledged that provision of information on planning and budgeting for healthy food was sporadic and not enough to sustain change. Participant 8 explained that: *We do provide that [financial literacy], but once we leave, they go back to their own way of spending, which is not beneficial for them and their children* (CBO3). Participant 1 from CBO1, who promoted cost-effective cooking through budget-friendly and healthy recipe demonstrations, observed that translating theory into practice was often not possible for mothers for whom *buying things is too expensive,* and for those who lacked refrigeration space and necessary kitchen appliances.

Creating a supportive environment

CBOs recognised that mothers could not reap the full benefit of CBO services without supportive social environments. Support from the extended family was an important determinant of mothers' ability to access key CBO services. For example, Participant 3 explained that without the family's support, some mothers drop out from the antenatal peer support groups:

> I once had a mom saying, "I can't continue with the program because my husband is not allowing me to just get the link [to connect online] or even use my phone to listen to the program". If there's no support, then they drop out. (CBO1)

Engaging with the families of school-going mothers was crucial to keeping them in school, central to the mission of some of the CBOs. Addressing poor family dynamics – a common issue in the community – was an important step that allowed CBOs to engage pregnant learners in their after-school homework assistance and to connect mothers with opportunities to complete secondary education. In this regard, three CBOs provided family counselling and parental workshops with a focus on communication skills, building relationships, and conflict resolution. CBO2 even used food incentives to gain family support by 'bringing some food parcels to the family so that they can link the food parcel to this child who they didn't like so much, or who they always disappointed them so much. But then they can start to appreciate and give her support as well' explained Participant 5.

In addition, some CBO services directly targeted the psychosocial well-being of beneficiaries through one-on-one counselling, connecting individuals with necessary referral services, and establishing support groups among peers. Group sessions offered a safe space to talk about feelings of distress, to form interpersonal relationships and to feel social recognition. Participant 6 believed that creating a supportive psychosocial environment for mothers when navigating the stresses of motherhood was as important as meeting their financial needs:

> Encouragement, emotional support, those are the things that you need more than money. If you don't have that support, you can't even think and say: I know that I'm pregnant now. But this is not the end of the world. (CBO1)

Discussion

In striving to ensure equitable nutrition outcomes for all mothers and their children in South Africa, it becomes evident that diverse social needs influence mothers' ability to benefit from available services. In Soweto, the provision of free primary care and social protection services, while vital, falls short of adequately addressing these social needs and mitigating nutrition inequalities. Some mothers and children require varying types and amounts of services and resources to attain the same level of optimal nutrition as others in the community. This study investigates community-level solutions, seeking to unearth strategies with the potential to augment the effectiveness of existing services, particularly when considering the impact of social needs. To this end, we mapped the services offered by a sample of CBOs operating in Soweto, focusing on the areas of maternal and child health, food security and social support. We reported on 23 small-scale services and compared how these services aligned with the social needs of mothers and pregnant women to enhance nutrition. Apart from one CBO, there was a general lack of services specifically aimed at supporting mothers during pregnancy and first six months post-delivery. This mirrors the findings of a recent anthropological study in Johannesburg (Hochfeld, 2022), highlighting the absence of non-profit organisation services in the challenging circumstances of mothers' lives. CBOs in the present study also acknowledged that their services could only partially address social needs because of limitations in scale, coverage, and sustainability. These challenges resonate with previous descriptions of the South African non-profit sector as chronically underfunded, leading to limited services primarily available only to a select few facing social, economic, and personal hardships and require support to survive (Hochfeld, 2022; Warshawsky, 2014). It is within this context that the perceived impact of some CBO services on social needs and consequent nutrition diminished over time, or its impact was contingent on meeting mothers' other needs that were unmet by any other available accessible service. For this reason, we see a gap in available services for mothers and pregnant women in the community, who live in overcrowded households without stable electricity supplies or essential appliances; who are single, financially dependent, and live hand-to-mouth without much disposable income; who lack transportation and affordable child-care assistance; and reside in areas without access to food outlets that sell affordable and quality healthy food.

Learnings from CBOs included in this study suggest that mothers and pregnant women in Soweto could maximise the benefit of primary healthcare and social protection services and improve nutrition if additional support was available to free up mothers' personal income, improve their asset base, promote resourcefulness, and create a supportive social environment. CBOs recognised the interdependence and mutual reinforcement between these four pathways and recommended simultaneously implementing related services to comprehensively address social needs. In the experience of CBOs, improving mothers' asset base, such as employable skills leading to increased income, was most influential when combined with a supportive social environment, like affordable childcare, and resourcefulness, including budgeting skills.

The idea of combining services to enhance individuals' capabilities and opportunities to benefit from available services is an emerging area of research in low – and middle-income countries (Little et al., 2021), including South Africa. A growing body of evidence suggests that combined intervention effects, for example Child Support Grant plus good parenting skills (Sherr et al., 2020), or financial literacy (Von Fintel et al., 2019) yield greater nutrition outcomes for children in South Africa than cash alone. This is because the 'plus' component specifically addresses factors that are essential for cash transfers to have a significant impact, but which cannot be altered by cash alone, including recipients' social needs. Cash transfers, when combined with other interventions, are often referred to as 'cash plus' models. These models have been adopted by various entities, such as the United Nations Children's Fund (UNICEF) (Roelen et al., 2017), and have also been advocated for in the South African context by human rights organisations such as Black Sash (Zembe-Mkabile et al., 2021).

The principles of the 'plus' model and CBOs' in-depth understanding of how best to help navigate and enhance individuals' ability to maximise the use of existing services and resources, offer a suitable approach to inform the identification of social needs interventions. Questions remain concerning the level of investment and mode of delivery of identified interventions. These include the dilemma of investing in the optimal functioning of CBOs, other service delivery platforms, or introducing new services directly to mothers during pregnancy and first six months post-delivery. Existing models for the impactful integration of social needs interventions within perinatal care (Reyes et al., 2021), and paediatric clinical settings (Garg et al., 2015; Gottlieb et al., 2016) provide some guidance. These studies have demonstrated reduced social needs of mothers through increased enrolment in community resources, enhanced employment opportunities, improved childcare access, and fuel assistance (Garg et al., 2015). Furthermore, they have shown improved maternal and child health and nutrition outcomes encompassing better dietary habits, mental well-being, improved breastfeeding practices (Gottlieb et al., 2016) and infant development (Reyes et al., 2021). Studies consistently underscored that the success of social needs interventions depended on the availability and accessibility of appropriate resources, well-established referral mechanisms, which are built on strategic partnerships between government entities and community organisations actively engaged in the provision of social services.

Despite South Africa's commitment to promote and strengthen partnership between Government and the non-profit sector for the delivery of social services in the White Paper on Social Welfare (Department of Welfare, 1997), such partnership and access to government funding has been the exception rather than the norm (Hochfeld, 2022; Martin-Howard, 2019; Warshawsky, 2014). At the time of the study, seven of the ten participating CBOs were not state-subsidised, limiting their ability to provide consistent welfare support. Furthermore, only two CBOs had established formal referral links with the health system. Our study, in line with findings that highlight the limitations of CBOs in Johannesburg (Hochfeld, 2022; Warshawsky, 2014), imply that relying on the non-profit sector to address social needs may not be a feasible option unless accompanied by measures to ensure their sustainability through long-term financial support and integration into various government sector.

Recognising the potential of CBOs to enhance the impact of existing public services by helping individuals maximise these benefits, it is imperative for the government to reaffirm its commitment

to supporting the non-profit sector, as outlined in the White Paper on Social Welfare. A critical step in this direction is to increase government funding allocated for CBOs, that would not only cover essential operational costs but provide opportunities for capacity-building to enhance the impact and efficiency of these organisations, including the development of monitoring and evaluation mechanisms. This investment would help CBOs break the vicious cycle of under-resourcing that hinders access to funds, including government subsidies and private donations. Furthermore, addressing social needs is a complex endeavour that no sector should tackle in isolation. To foster a holistic approach to address social needs with the aim of mitigating nutrition inequalities, integrating CBOs into healthcare system and other government sectors is essential.

Strengths and limitations

The study fills an important gap in understanding complementary approaches that are essential for primary healthcare and social protection services to have a significant nutrition impact for mothers and children facing socio-economic disadvantages. To our knowledge, this is the first study to apply a social needs approach and to engage with CBOs to inform strategies to address unmet social needs. Nevertheless, it is important to interpret the CBOs' accounts in light of potential for social desirability. Participants may have felt reluctant to share negative experiences or criticise their respective CBOs due to social pressure. Furthermore, beneficiaries of CBOs were not involved in the data collection process, and the study did not measure the effect of CBOs strategies. Formal evaluation of their impact was limited and did not allow for such measures. However, impact evaluation was not critical in this particular study as the aim was to inform the identification of interventions that address social needs and consequently improve maternal and child nutrition. In addition, this study was carried out in Soweto, and it is likely that CBO network in other locations can operate differently, indicating the need for cross-city and possibly cross- province comparisons.

Conclusion

Free primary healthcare and social protection services alone do not ensure optimal nutrition outcomes for all mothers and children. There are unmet social needs that limit some mothers from benefitting fully from available services, requiring specific interventions. CBOs, with their in-depth understanding of social needs and relevant interventions, represent an underutilised yet vital source of information on how government can respond and begin to address social needs. Nevertheless, CBOs' resources are scarce, their services are small-scale and mostly cater for those who require support to survive. It is unlikely that CBOs alone can comprehensively address social needs of pregnant women and new mothers.

It is imperative that the South African government reaffirms its previous commitments to support and collaborate with the non-profit sector. This can be achieved through increased funding for CBOs and their integration into various government sectors. Such actions could facilitate the delivery of tailored services and resources to address the social needs of mothers and pregnant women, ultimately mitigating inequalities in nutrition outcomes.

Acknowledgements

The authors wish to thank the CBO representatives who were willing to share their experiences and answer questions.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This research was funded by the National Institute for Health Research (NIHR) (17\63\154) using UK aid from the UK Government to support global health research (https://www.nihr.ac.uk/). The views expressed in this publication are those of the authors and not necessarily those of the NIHR or the UK Department of Health and Social Care. The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript. AE, CD, and KH are supported by the SAMRC/Wits Centre for Health Economics and Decision Science – PRICELESS SA [grant number 23108]. AE has received funding from the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, South Africa. Furthermore, CD and AE are supported by the UK Research and Innovation Global Challenges Research Fund Accelerate Hub (ES/S008101/1).

Data availability statement

The dataset generated and analysed during the current study is not publicly available due to limitations of ethical approval regarding participant confidentiality but are available from the corresponding author on reasonable request.

ORCID

Agnes Erzse http://orcid.org/0000-0001-9303-9323
Chris Desmond http://orcid.org/0000-0002-3500-0196
Karen Hofman http://orcid.org/0000-0001-9512-7220
Mary Barker http://orcid.org/0000-0003-2976-0217
Nicola Joan Christofides http://orcid.org/0000-0002-3559-6401

References

Cele, L., Willen, S. S., Dhanuka, M., & Mendenhall, E. (2021). Ukuphumelela: Flourishing and the pursuit of a good life, and good health, in Soweto, South Africa. *SSM - Mental Health*, *1*, 100022. https://doi.org/10.1016/j.ssmmh.2021.100022

Department of Welfare. (1997). *White paper for social welfare: Principles, guidelines, recommendations, proposed policies and programmes for developmental social welfare in South Africa.* Department of Welfare. https://www.gov.za/sites/default/files/gcis_document/201409/whitepaperonsocialwelfare0.pdf.

English, R., Peer, N., Honikman, S., Tugendhaft, A., & Hofman, K. J. (2017). First 1000 days' health interventions in low- and middle-income countries: Alignment of South African policies with high-quality evidence. *Global Health Action*, *10*(1), 1340396. https://doi.org/10.1080/16549716.2017.1340396

Erzse, A., Desmond, C., Hofman, K., Barker, M., & Christofides, N. J. (2023). Qualitative exploration of the constraints on mothers' and pregnant women's ability to turn available services into nutrition benefits in a low-resource urban setting, South Africa. *BMJ Open*, *13*(11), e073716. https://doi.org/10.1136/bmjopen-2023-073716

Gale, N. K., Heath, G., Cameron, E., Rashid, S., & Redwood, S. (2013). Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Medical Research Methodology*, *13*(1), 117. https://doi.org/10.1186/1471-2288-13-117

Garg, A., Toy, S., Tripodis, Y., Silverstein, M., & Freeman, E. (2015). Addressing social determinants of health at well child care visits: A cluster RCT. *Pediatrics*, *135*(2), e296–e304. https://doi.org/10.1542/peds.2014-2888

Gottlieb, L. M., Hessler, D., Long, D., Laves, E., Burns, A. R., Amaya, A., Sweeney, P., Schudel, C., & Adler, N. E. (2016). Effects of social needs screening and in-person service navigation on child health: A randomized clinical trial. *JAMA Pediatrics*, *170*(11), e162521. https://doi.org/10.1001/jamapediatrics.2016.2521

Heidkamp, R. A., Piwoz, E., Gillespie, S., Keats, E. C., D'Alimonte, M. R., Menon, P., Das, J. K., Flory, A., Clift, J. W., Ruel, M. T., Vosti, S., Akuoku, J. K., & Bhutta, Z. A. (2021). Mobilising evidence, data, and resources to achieve global maternal and child undernutrition targets and the Sustainable Development Goals: An agenda for action. *The Lancet*, *397*(10282), 1400–1418. https://doi.org/10.1016/S0140-6736(21)00568-7

Hochfeld, T. (2022). *Granting justice: cash, care, and the child support grant*. HSRC Press.

Jonah, C., Sambu, W., & May, J. (2018). When progressive fiscal policies do not reduce health inequalities: An examination of child malnutrition in South Africa. In *United Nations Department of Economic and Social Affairs (UNDESA) expert group meeting New York* (pp. 6–1).

Little, M. T., Roelen, K., Lange, B. C. L., Steinert, J. I., Yakubovich, A. R., Cluver, L., & Humphreys, D. K. (2021). Effectiveness of cash-plus programmes on early childhood outcomes compared to cash transfers alone: A systematic review and meta-analysis in low- and middle-income countries. *PLOS Medicine*, *18*(9), e1003698. https://doi.org/10.1371/journal.pmed.1003698

Martin-Howard, S. (2019). Health and nutrition interventions for low-income and underserved black and coloured mothers in South Africa: A qualitative case study of a community-based organization in the Western Cape. *Journal of Health and Human Services Administration*, *42*(1), 93–141. https://doi.org/10.1177/107937391904200105.

MAXQDA 2020. (2019). [Computer software]. VERBI Software. https://www.maxqda.com/.

May, J., Witten, C., & Lake, L. (2020). *South African child gauge 2020*. Children's Institute, University of Cape Town. https://ci.uct.ac.za/sites/default/files/content_migration/health_uct_ac_za/533/files/ChildGauge_2020_lowres_18_02.pdf.

National Department of Health, Statistics South Africa (Stats SA), South African Medical Research Council (SAMRC), & ICF. (2019). *South Africa demographic and health survey* 2016. NDoH, Stats SA, SAMRC, and ICF.

Nisbett, N., van den Bold, M., Gillespie, S., Menon, P., Davis, P., Roopnaraine, T., Kampman, H., Kohli, N., Singh, A., & Warren, A. (2017). Community-level perceptions of drivers of change in nutrition: Evidence from South Asia and sub-Saharan Africa. *Global Food Security*, *13*, 74–82. https://doi.org/10.1016/j.gfs.2017.01.006

Nyati, L. H., Pettifor, J. M., & Norris, S. A. (2019). The prevalence of malnutrition and growth percentiles for urban South African children. *BMC Public Health*, *19*(1), 492. https://doi.org/10.1186/s12889-019-6794-1

Patel, L. (2009). *The gendered character of social care in the non- profit sector in South Africa*. United Nations Research Institute for Social Development (UNRISD). https://cdn.unrisd.org/assets/library/papers/pdf-files/leilapatel.pdf.

Patel, L. (2012). Developmental social policy, social welfare services and the non-profit sector in South Africa. *Social Policy & Administration*, *46*(6), 603–618. https://doi.org/10.1111/j.1467-9515.2012.00858.x

Prioreschi, A., Wrottesley, S., Draper, C. E., Tomaz, S. A., Cook, C. J., Watson, E. D., Van Poppel, M. N. M., Said-Mohamed, R., Norris, S. A., Lambert, E. V., & Micklesfield, L. K. (2017). Maternal and early life nutrition and physical activity: Setting the research and intervention agenda for addressing the double burden of malnutrition in South African children. *Global Health Action*, *10*(1), 1–6. https://doi.org/10.1080/16549716.2017.1301085.

Reyes, A. M., Akanyirige, P. W., Wishart, D., Dahdouh, R., Young, M. R., Estrada, A., Ward, C., Cruz Alvarez, C., Beestrum, M., & Simon, M. A. (2021). Interventions addressing social needs in perinatal care: A systematic review. *Health Equity*, *5*(1), 100–118. https://doi.org/10.1089/heq.2020.0051

Roelen, K., Devereux, S., Abdulai, A.-G., Martorano, B., Palermo, T., & Ragno, L. P. (2017). *How to make 'cash plus' work: Linking cash transfers to services and sectors* [Innocenti Working Paper 2017-10]. UNICEF Office of Research. https://www.unicef-irc.org/publications/pdf/IDS%20WP%20CORRECTED%20Sept%202017.pdf.

Saavedra, J. M., & Dattilo, A. M. (2017). *Early nutrition and long-term health: Mechanisms, consequences, and opportunities: Vol. Woodhead publishing series in food science, technology and nutrition*. Elsevier Science. https://doi.org/10.1016/C2014-0-00764-2

Sherr, L., Roberts, K. J., Mebrahtu, H., Tomlinson, M., Skeen, S., & Cluver, L. D. (2020). The food of life: An evaluation of the impact of cash grant receipt and good parenting on child nutrition outcomes in South Africa and Malawi. *Global Health Promotion*, *27*(4), 131–140. https://doi.org/10.1177/1757975920957598

Social Progress Imperative. (2019). *Social progress index South Africa: A provincial perspective*. Social Progress Imperative. https://www.socialprogress.org/static/ea0931ceb255df90b829628cf91f23c7/IQ%20business_0.pdf.

Statistics South Africa. (n.d.). *Soweto*. Retrieved February 6, 2023, from https://www.statssa.gov.za/?page_id = 4286.

Sulla, V., Zikhali, P., & Cuevas, P. F. (2022). *Inequality in Southern Africa: An assessment of the Southern African customs union*. The World Bank. http://documents.worldbank.org/curated/en/099125303072236903/P1649270c02a1f06b0a3ae02e57eadd7a82.

Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, *19*(6), 349–357. https://doi.org/10.1093/intqhc/mzm042

United Nations General Assembly. (2016). *Resolution adopted by the general assembly on 1 April 2016 [without reference to a Main Committee (A/70/L.42 and Add.1)] 70/259. United Nations Decade of Action on Nutrition (2016–2025)*. https://www.un.org/nutrition/resources/un-resolutions.

Von Fintel, D., Von Fintel, M., & Butheleze, T. (2019). *The complementarity between cash transfers and financial literacy for child growth*. (SALDRU Working Paper Number 241 Version 1/ NIDS Discussion Paper 2019/8). SALDRU, UCT. http://www.nids.uct.ac.za/images/papers/2019_08_NIDSW5.pdf.

Ware, L. J., Kim, A. W., Prioreschi, A., Nyati, L. H., Taljaard, W., Draper, C. E., Lye, S. J., & Norris, S. A. (2021). Social vulnerability, parity and food insecurity in urban South African young women: The healthy life trajectories initiative (HeLTI) study. *Journal of Public Health Policy*, *42*(3), 373–389. https://doi.org/10.1057/s41271-021-00289-8

Warshawsky, D. N. (2014). Civil society and urban food insecurity: Analyzing the roles of local food organizations in Johannesburg. *Urban Geography*, *35*(1), 109–132. https://doi.org/10.1080/02723638.2013.860753

Williams, D. R., Costa, M. V., Odunlami, A. O., & Mohammed, S. A. (2008). Moving upstream: How interventions that address the social determinants of health can improve health and reduce disparities. *Journal of Public Health Management and Practice: JPHMP*, *14*(Suppl), S8–S17. https://doi.org/10.1097/01.PHH.0000338382.36695.42

Zembe-Mkabile, W., Witten, C., & Edlemann, T. (2021). *Children, social assistance and food security research report*. Black Sash. https://www.blacksash.org.za/images/Report/0606_BS_-_Children_Social_Assistance_and_Food_Security_Research_Report_V15.pdf.

Appendix 1. Distribution of services offered by CBOs by social needs and perceived impact pathways

Social needs	Perceived impact pathway	CBO services	Total	CBO1	CBO2	CBO3	CBO4	CBO5	CBO6	CBO7	CBO8	CBO9	CBO10
Financial planning for nutrition	Promoting resourcefulness	Resource management (incl. financial literacy)	3	1	0	0	0	1	0	0	0	0	1
Personal income stability	Promoting resourcefulness	Fostering entrepreneurship mentality	8	1	1	1	1	1	1	0	0	1	1
	Improving mothers' asset base	Skills development (e.g., sewing, beading, crafting, baking, planting)	5	0	1	1	1	0	1	0	0	1	0
		Income generating groups	4	0	1	1	1		0	0	0	1	0
	Freeing up personal income	Material assistance (e.g., clothing, toiletries)	6	0	1	1	1	1	0	0	1	1	0
Appropriate and affordable housing	Freeing up personal income	Furniture donation	1	0	0	0	1	0	0	0	0	0	0
Access to welfare, legal, education and labour system	Improving mothers' asset base	Referral and assistance with government service	8	1	1	0	1	1	1	0	1	1	1
		Job readiness assistance (e.g., writing CVs, printing documents, preparation, job search)	5	1	0	0	1	0	0	1	1	0	1
		Skills assessment and links to jobs	5	1	0	0	1	1	0	0	1	0	1
		Computer access and literacy	4	0	1	1	1	1	0	0	0	0	0
	Creating a supportive environment	Child educational support (e.g., afterschool homework)	8	0	1	1	1	1	1	1	1	1	0
	Freeing up personal income; Creating a supportive environment	Day-care (ECD)	3	0	1	1	0	1	0	0	0	0	0

(*Continued*)

Continued.

Social needs	Perceived impact pathway	CBO services	Total	CBO1	CBO2	CBO3	CBO4	CBO5	CBO6	CBO7	CBO8	CBO9	CBO10
Social support	Creating a supportive environment	Individual psychosocial counselling	7	0	1	0	1	0	1	1	1	1	1
Psychosocial		Family counselling (e.g., communication and relationship building)	3	0	1	0	0	1	0	0	1	0	0
		Mental-health referrals	5	1	0	0	1	1	0	0	1	1	0
		Parenting skills and maternal identity	3	1	1	0	0	0	0	0	1	0	0
Community cohesion		Peer support groups (with interpersonal skills)	7	1	1	1	0	0	1	0	1	1	1
		Recreational youth activities (e.g., poetry, sports, library, camps)	7	0	1	1	1	1	1	0	1	1	0
Affordable healthier foods	Freeing up personal income	Food parcels	4	0	1	1	0	1	0	0	1	0	0
		Food vouchers	1	0	0	0	0	1	0	0	0	0	0
		Cooked meal provisioning	3	0	1	1	0	0	0	0	1	0	0
		Access to community food garden	6	0	1	1	1	1	0	0	1	1	0
	Creating a supportive environment	Parental nutrition and health education (e.g., child growth monitoring)	3	1	1	0	1	0	0	0	0	0	0
Total services by CBO				9	17	12	15	14	7	3	14	11	7

Notes: 1 indicating that a service was provided and 0 meaning it was not.