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Early Childhood Development
in the Global South

This supplementary issue arises from a sequence of activities the British Academy has led since 2015 to bring together a range of disciplinary perspectives on early childhood development. The research programme has uniquely been supported by both the Department for International Development and the Global Challenges Research Fund.



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Early childhood development in the Global South: introduction

Simon Goldhill and Philip Lewis

Abstract: This supplementary issue relates to a sequence of activities the British Academy has supported since 2015 in relation to the bringing together of a range of disciplinary perspectives on early childhood development. The five articles developed out of a research programme, supported uniquely by both the Department for International Development and the Global Challenges Research Fund, illustrate this need for cross-disciplinary collaboration as well as engagement with policy, practice and local societies and norms. The early years often fall between different priorities and agendas and this supplementary issue brings forward some of the exciting research that is taking place to bridge these divisions and gaps whilst demonstrating the value and opportunities that integrated analysis and policy can achieve in the short term and in the long run for children, immediately and through to adult life.

Keywords: Early years, education, health, early childhood.

This supplementary issue comes out of a sequence of work the British Academy initiated in 2015 with the Department for International Development (DFID) on early childhood development. In October of that year, the Academy and DFID held a small roundtable of researchers, policymakers and practitioners with the aim of generating discussions on how research should feed into policy and practice, and how policy and practice in turn should influence future research agendas. In doing so, we hoped also to break down the barriers and silos between policy makers, practitioners and researchers working on early childhood development, and particularly to encourage cross- and interdisciplinary engagement and interaction between different research agendas. This was particularly important in a field which has often appeared to fall between various institutional stools—be they academic departments, government agencies or workers in the field.

The conversations from that roundtable and elsewhere, including a series of Lancet Commissions, have helped to generate the increasing interest and attention that early childhood development and education are beginning to develop in policy circles with important leadership from DFID. The British Academy has been able to support this through a research programme, uniquely co-funded by DFID and the Global Challenges Research Fund, that began in 2017, and of which this supplementary issue marks the culmination. As was the nature of that initial roundtable, this programme has had always a desire to act as an initial foundation and springboard for further action and activities well beyond anything the Academy might support. Bringing people and organisations together has been a fundamental lodestar to this activity, and especially vital in the field of early childhood development and education. An immediate outcome of this Programme has been to galvanise a broader set of funders, including the Economic and Social Research Council, the Medical Research Council, DFID and the Academy, to deliver a wider set of programmes in the years ahead. This supplementary issue, therefore, is a step on the journey of developing interactions and synergies across research, policy and practitioner communities, which is continuing. It does, however, provide an opportunity to reflect on the progress that has been made and the many areas where future work is still needed.

The British Academy's initial programme, begun in 2017, aimed to encourage and require interdisciplinary working between researchers in the humanities and social sciences, and the medical sciences. The programme therefore acknowledged the importance of bringing together expertise and knowledge from across the sciences, as well as the vital role the humanities and social sciences play in the global challenges that humanity faces today and for the future. The programme supported ten projects—all led by female academics, a first for the Academy—focused on the early years of children in nine low- and middle-income countries. Five of those projects are represented in this supplementary issue. The articles in this issue illustrate the range of

expertise, methods and practices that the programme wished to support and encourage. The articles also cover various aspects of a broad early childhood development and education arena; they bring forth many shared lessons and learning, as well as inter-related identifications of the barriers and opportunities that are faced in diverse contexts. This helps to develop a mutually informative understanding of the challenges and opportunities that are faced in different communities, while respecting how such a generalising perspective may lead to necessarily different local strategies, practices and priorities.

Each of the articles underlines the key importance of children's early years and the significant evidence that has been marshalled to illustrate the value of investing in the early years as a foundation for later childhood, adolescence and adulthood. Mwoma *et al.* (2020), for example, point to research showing that fully 66 per cent of children in sub-Saharan Africa have poor developmental outcomes—and the consequent urgency in finding ways to improve early childhood development interventions. A major challenge in developing effective and affordable early childhood programmes in low-income settings is achieving the transition from local interventions to a programme that can be delivered at regional or national scale. Strachan *et al.* (2020) investigate this issue in Uganda, where a multisectoral early childhood development programme has been approved at national level. Investigating how its implementation has progressed has provided key insights to this challenge of delivering a programme at scale. Mwoma *et al.* analyse the implementation and integration of the Care for Child Development package and Baby Friendly Community Initiative in rural Kenya. Their article demonstrates the positive results they have found, but they too note the challenges this intervention will face if it is to reach national scale because of the current lack of sufficient Master Trainers in Kenya to provide the regular supportive supervision that their research has found to be key to the programme's success.

Both articles insist that achieving national scale requires a shared political will—to focus on early childhood programmes nationally. The symmetrical challenges of translating political will into more local, community-level activities are a theme in both articles. Jha *et al.* (2020), however, identify the parallel but opposite concern—when political will for early childhood programmes is signally lacking or inadequate in its focus or impact. Their article focuses on the models and costs of supporting early childhood education in India. India has a long-standing integrated early childhood care and education programme, but due to a lack of political will and interest, this trend-setting programme has been systematically poorly funded. This illustrates a lack of engagement with the importance of the early years to future developmental outcomes. Jha *et al.* argue that a change of policy is required to enact the priority that is placed on the early years, and to maximise the success of the investment that programmes focused on those early years currently receive. Jha *et al.* demonstrate clearly

the complex and conflictual interconnections between different actors, institutions and incentives in developing early education policy and activities. As they note, policy without commensurate institutional support and appropriate resource, or vice versa, cannot effect significant difference. An integrated understanding across sectors and actors is required.

This integration is not only required at a policy level but also in the design and delivery of early years programmes. Mwoma *et al.* (2020), in turn, are exploring the effectiveness of efforts in Kenya to integrate programmes to produce such an integrated system. Strachan *et al.* (2020), for their part, show how the political will at a national level for an integrated multisectoral programme translates weakly at district and community level in Uganda. At these more local levels, early childhood development is equated with health and nutrition activities with less emphasis on child stimulation or the importance of cognitive development. This partial understanding of early childhood development locally in Uganda is mirrored, however, in much broader evidence gaps that are drawn out starkly in the article by Roelen *et al.* (2020). They analyse a series of graduation programmes across the Global South. Such programmes emphasise economic strengthening and poverty reduction; they do not directly approach the early years. But given that the early years are one of the most important stages of emotional, mental intellectual and social development, such programmes, Roelen *et al.* argue, should have an important role to play in fostering the development of children in their early years. This could also have an important impact on breaking, rather than reinforcing, the intergenerational transmission of poverty. Roelen *et al.*, however, find that there are some positive effects in relation to nutrition and health (the focus of attention Strachan *et al.* have seen in Uganda), whilst also noting there are regrettably large evidence gaps in relation to safety, security, responsive caregiving and early learning.

This lack of evidence provides the focus and inspiration for Wolf and Peele's summary article (2020), which is the first evaluation of early childhood education impacts on the trajectories of learning in sub-Saharan Africa (their focus is pre-schooling in Ghana). Both Wolf and Peele (2020) and Roelen *et al.* (2020) illustrate both the scale of positive impact that early years programming could have, and the importance of how such programmes are designed and implemented. Roelen *et al.* demonstrate how graduation programmes need a greater and more holistic focus on children to secure early childhood development outcomes and ultimately achieve the intended poverty reduction in the long run. Whilst children are not the focus of graduation programmes, the long-term success of such interventions depends on their ability to break the intergenerational cycle of poverty, which begins and is often established from the early years. The pervasive impact of poverty on early development is also noted by Strachan *et al.* (2020) in their stark findings. Wolf and Peele's

article illustrates how the desire to achieve greater parent–teacher communication as part of an intervention can actually lead to disagreement and frustration amongst parents and teachers that were ultimately harmful to children. This indicates that parents' vision of schooling may be in contradiction to developmental learning processes at the heart of the teacher training being provided.

This misalignment of expectations underlines a further common strand of the articles in this supplementary issue: the importance of local context, local priorities and community practices and beliefs. Scale may be the goal but, as Strachan *et al.* (2020) note, it must be mindful of local priorities. Wolf and Peele (2020) note that more research is required to find effective ways to engage parents in their children's education, which is likely to be critical for improving teacher practice and children's development and breaking intergenerational poverty. Similarly, Mwoma *et al.* (2020) note the unintended effect of increased male involvement through the community health volunteers engaged in delivering the initiatives in rural Kenya. They do, however, note that social influences and cultural beliefs remain a barrier to fathers' complete engagement. While Strachan *et al.* argue that in future there needs to be greater understanding of what language can be used to describe stimulating play in such a way that parents will believe in the importance of its involvement and efficacy as a change agent for early childhood development. The importance, therefore, of peer influence and wider community engagement comes out strongly in this supplementary issue, with a clear need to focus on social norms around child interaction.

This is one part of a complex picture of programme design, implementation and scale, the political will to support and deliver an integrated early childhood development policy and policies linked to improving early years outcomes. This must be translated effectively at local levels. Interventions and changes in policy must be supported by further evidence, that is currently lacking in crucial areas. Broad national programmes are required, but these must be flexible enough to account for significant social norms and cultural beliefs in communities. Effective and durable outcomes require long-term programmes with the collection of evidence over a long trajectory of a cohort's educational development. In many ways, this reflects the challenge and opportunity of engaging in early childhood development which energised that original 2015 roundtable. The early years have often fallen between different priorities. Early education, especially in the impoverished areas which need such support most urgently, necessarily includes issues of health, as well as formal education, and must take into account social protection, nutrition, poverty reduction and many other policy portfolios and research perspectives. This supplementary issue brings forward some of the exciting research that is taking place to bridge these divisions and gaps whilst demonstrating the value and opportunities that integrated analysis and policy can achieve in the short term and in the long run for children, immediately and through to adult life.

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Costs, costing principles and institutional framework for responsive early childhood care and education models in India: a proposition

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Abstract: Governments in developing countries rarely undertake detailed costing exercises for public service delivery, and policy choices are often made without this information. Costing norms for public services in India usually remain homogeneous without considering the local contexts, culture, practices or requirements of a diverse and highly populated country. Drawing on an ethnographic study and a cost analysis of seventeen early childhood care and education (ECCE) models covering private, public and non-profit sectors in India, this paper develops a costing framework for the planning and provisioning of public services. The main arguments in this paper are that (i) it is important to take quality parameters into account in estimating the economic costs of public service delivery, (ii) it would cost much more than the current level of public expenditure to cover all children through a responsive ECCE model, and (iii) public service delivery models need to use frameworks that allow flexible cost norms while following a set of principles and non-negotiable standards to ensure quality and enable accountability.

Keywords: Costing of public services, economic costs, early childhood care and education, public service provision, responsive EECE model, costing framework, ECCE costing India.

1. INTRODUCTION

It is important to have an estimate for the cost of services by any provider, irrespective of whether the provider is a public or a private entity. However, while private entities attach a lot of importance to this estimation, as it is fundamental to their profit forecast, governments engaged in the business of providing public services in important areas such as education, health, water and sanitation rarely undertake detailed costing exercises. Although it is true that the government has a larger objective of looking into these public services as part of the greater public good, this cannot be the reason for ignoring an understanding of how much it costs to provide the respective services. An accurate estimate of the costs of providing any particular service can help in more efficient planning, judicious use of resources and better decision making regarding subsidies and cost-recovery mechanisms to make the provisions sustainable in the long run.

Cost of services refers here to the entire cost and not recurrent and overt expenditure alone. In the case of public services, the opportunity costs of available government land or infrastructure are rarely considered even when an effort is made to understand the cost of a particular service. Also, while the issue of quality is often raised in the case of various public services, especially in education and health, the cost of high-quality provisioning is rarely understood, or what the essential elements of this costing exercise are. This paper uses early childhood care and education (ECCE) in India as an illustration to undertake a costing exercise leading to the development of a costing framework that can be used by policy makers for planning and budgeting not only for this sector but also for other development sectors, especially in education. While India has one of the largest state-based ECCE programmes in the world,¹ its policy and institutional practices have been largely informed by external norms, shaped largely by what has come to be known as the Global North. The costing patterns remain highly centralised and homogenous in India, despite the size and diversity of its contexts and status. While the policy statements² recognise the need for integrating local needs, this remains mere rhetoric in the absence of an enabling conceptual framework and costing principles that allow the state mechanisms to be more responsive.

¹India introduced an Integrated Child Development Service (ICDS) in 1978, with a focus on ECCE for children below 6 years of age, and the health of pregnant and lactating mothers. By far, it is the world's largest ECCE programme and is being accessed currently by more than 83 million children between the ages of 0 and 6 years.

²National ECCE curricular framework (https://wcd.nic.in/sites/default/files/national_ece_curr_framework_final_03022014%20%282%29.pdf) and National Policy for Children (https://wcd.nic.in/sites/default/files/npenglish08072013_0.pdf).

The paper primarily draws from an analysis of the costs of ECCE services being provided by diverse providers—public, private and the non-profit sector—in different parts of India, and it builds a conceptual framework for institutional planning and a set of costing principles to inform public budgeting practices. The conceptual framework is derived out of the need to enable locally responsive ECCE models while also maintaining accountability norms in a democratic polity. Insights from our recently concluded ethnographic research on two sites in the two Indian states of Bihar and Tamil Nadu (CBPS & UC forthcoming) are a major source of information for an understanding of the diverse needs and practices, as well as one of our earlier pieces of research carried out to understand the costing of a variety of ECCE models in different parts of India (CBPS 2018a, 2018b, 2018c, 2018d). The paper also examines the public expenditure implications of following such costing norms for India's main ECCE programme.

India has a significant child population, with an estimated 158 million children in the age group 0–6 years. However, access to ECCE interventions for these children remains limited and nearly one fifth of the children between 3 and 5 years are not enrolled in any formal centre. Access to quality ECCE services, issues of inadequate infrastructure and space, and financing and regulation of the sector remain key issues (Rao & Kaul 2018, CBPS 2018a, 2018b, 2018c, 2018d). Several studies on 'best practices' and 'good' models of ECCE in India illustrate how research and policy are informed by normative notions of early childhood care practices that tend to be drawn from urban, middle-class and upper-caste contexts (Swaminathan 1996, CBPS & UNICEF 2017, Kaul *et al.* 2017). Despite significant research and advocacy for ECCE at global and national levels, policy debates on improving the quality of provision often overlook the fact that notions of 'quality' ECCE are largely grounded in models and practices of childcare and education that have been developed outside local communities. And there is a need for ECCE research and policy to take the contexts of marginalised communities more centrally into account. Communities themselves could have concepts and models of childcare and education, which can inform institutional practices, but this can happen only when there is scope for modification at local level. This means that we need to promote a responsive framework of ECCE programming as against a homogenous and uniform model.

Responsive models of ECCE necessitate the recognition that contextually and culturally informed practices have the potential to enrich the existing ways in which ECCE interventions are implemented. The presence of such models can also play a crucial role in improving the relevance and uptake of these programmes. The findings from our ethnographic study in both Bihar and Tamil Nadu show the complexity of contexts, diversity of notions regarding an understanding of childhood, varying quality of services and the range of experiences in different sites. These findings form

the basis of defining a responsive framework as inherently flexible yet accountable—both to the rights of the child and to other stakeholders. Our argument here is that, while responsive models are defined by being contextually and culturally more attuned to the local situation, they should also adhere to global norms of accountability, though not necessarily to global norms of practice. With guidance from our cost analysis, where we also try to monetise the non-monetary inputs, we outline the emergent principles that should form the basis for developing a responsive model. Our emergent principles also point to the fact that ECCE reforms have to be rooted in political economy and that technocratic solutions are not necessarily the answer.

Our main arguments in this paper are that:

- (i) It is important to estimate the economic costs of service delivery by taking quality parameters into account for public services as well, because this helps in public policy decision making in the areas of budgets, subsidies and cost recovery.
- (ii) The economic costs need to be estimated by considering the alternative costs of fixed assets, and also taking all the desired processes of a ‘good’ case into account by unpacking the dimensions of quality.
- (iii) It is important that public service delivery models are responsive to local contexts, needs, cultures and knowledge, especially in a diverse country like India. Here we use ECCE as an illustration, but this could apply to other stages of education and a few other social services as well.
- (iv) The development of responsive models on a large scale calls for the existence of an enabling institutional framework and facilitative costing principles, which also have implications for both the costing guidelines and the size of the public budgets meant for respective services.

The paper is organised as follows. In Section 2, we present the insights that we collected from our review of diverse ECCE models in three Indian states, and from our ethnographic study on two different sites in two additional states. In Section 3, we detail the methodology for estimating the economic cost of ECCE delivery. We have tried to estimate the costs by going beyond financial expenditure incurred in order to be able to consider and compute the costs for non-monetised components as well. Section 4 presents a comparative analysis of the cost analysis for seventeen different ECCE models, taken from private, NGO (non-governmental organisation) and public delivery systems. In Section 5, we present our conceptual framework and discuss some of the emergent costing principles for enabling responsive ECCE models on a large scale. The last section discusses some of the policy, institutional and budget implications of applying the proposed framework and costing principles to the Integrated Child Development Services (ICDS) programme in India.

2. INSIGHTS FROM A REVIEW OF DIVERSE ECCE MODELS AND THE ETHNOGRAPHIC STUDY OF TWO SITES

The cost analysis, as mentioned earlier, drew its principles from two sources: an earlier study undertaken recently (CBPS 2018d) where a number of different ECCE models were studied for their cost components using a quality framework derived through a review of the literature, and a recent ethnographic study conducted across two states. Our earlier study argued for having quality parameters such that ‘these parameters do not create barriers for creativity, innovation, experimentation and for contextualisation of interventions’ (CBPS, 2018d: 6). The study revealed that it was possible to have contextually situated and suited ECCE programmes without compromising on certain basic features. This also showed that it helps to have a set of ‘“non-negotiables” ... to allow for the possibility of contextually-relevant learning opportunities ... rather than a list of must-do processes and practices. This can ensure diversity while simultaneously ensuring that programmes or models do not create adverse conditions’ (CBPS, 2018d: 6). The study showed how the models that allow local knowledge and languages to play a major role ensured higher participation of children and ‘better’ quality in their services.

The ethnographic study carried out in two states—Bihar and Tamil Nadu—reinforced the need for the diversity and contextualisation of the ECCE models. The two states were selected for the large differences they present in Child Development Indicators (CDI),³ despite being relatively similar in geographical size and population share of groups that are officially recognised as socially and educationally backward: Scheduled Castes (SC), Schedule Tribes (ST), and Muslim minorities (Maithreyi *et al.* 2018). The study was located in the Korha block of the Katihar district in Bihar and the Gudalur block of the Nilgiris district in Tamil Nadu and each had sizeable SC, ST and Muslim populations (Table 1).

Table 1. Population and literacy of the field sites in the ethnographic study. (*Source:* Census 2011)

Percentages	Korha			Gudalur		
	SC	ST	Muslim	SC	ST	Muslim
Population	13.7	8.1	39.8	26.3	12.8	26.9
Literacy	37.7	39.2	not available	41.3	50.3	not available

³ We refer to the index developed by Drèze and Khera (2015), using four indicators—immunisation, female literacy, pre-natal health check-ups and weight.

The three state-run ECCE centres or *anganwadis*, catering to a mixed population of SC, ST, Other Backward Castes (OBC) and Muslim communities formed the locus of ethnographic fieldwork in Gajwa, along with one low-fee private school of very poor quality, located just outside the Gajwa village on the main highway. Through these sites, fieldwork then extended into the community and family spaces, to better understand the social-cultural and economic contexts of families and children, and specifically their child socialisation practices. (See Sriprakash *et al.* (forthcoming) for more details on the context of Gajwa.) Similarly in Gudalur, in Tamil Nadu, the study was conducted across two villages, consisting predominantly of four different ST communities and other OBC and Christian populations. While explicit casteism, as seen in Gajwa, was rarely observed here, the Nilgiris biosphere and the thick shrub-forest of the Mudumalai tiger reserve, geography, terrain, and the threat from wildlife, posed significant challenges to communities for access to state institutions such as *anganwadis*. Ethnographic fieldwork in Gudalur covered two *anganwadi* centres in the two villages, one private school and one NGO school.⁴ The ethnographic fieldwork revealed significant similarities and differences across both sites with respect to families' perceptions of early childhood care and education. Common to both contexts was an understanding of early childhood as extending up to the age of 10 years, and was seen as a relaxed period of play, immersion into community values and knowledge, in Katihar and the Nilgiris. We also tried to understand how families negotiated with the institutions, discourses and structures that supposedly contributed to their children's development.

Parents spoke of children as a 'gift from God' or as 'equivalent to God', and explained that there were few expectations placed on children up to the age of 10 years. For example, Manjula Devi, the 22-year-old mother of a 3-year-old child attending an *anganwadi* in Katihar, belonging to the Sonar (OBC) community, asked: '*Itne chhote bacche ko kya sikhayenge?*' [What do we teach such young children?]. She further added that at this age children only play, and were taught the home language and to identify people and relations. Like Manjula Devi, others spoke of this period as a time for '*khelkood*', or immersion into community life, consisting of activities such as collecting forest produce, grazing '*bakri*' [goats] or '*mal*' [cattle] or in the specific context of Chalikadu, looking after the elephants.^{5,6} Conceptions of play and work were not strongly separated and both were seen to have developmental value.

⁴In the remainder of the paper, we refer to the two sites as Katihar and the Nilgiris.

⁵Several parents across Katihar and the Nilgiris expressed similar opinions to those reported here. However, here we quote two specific informants: Parimala, a 32-year-old Kattunayaka mother of a two- and half-year-old girl, from the Nilgiris; and Sunil Hansda, the grandfather of a 3-year-old boy attending an *anganwadi* in Gajwa village, belonging to the Santhali (ST) community, along with Manjula Devi.

⁶The reference to looking after elephants was made by Parimala from Chalikadu, which is located within the Mudumalai reserve forest and employs local communities as mahouts and anti-poaching watchers

However, such views of childhood existed alongside parental anxieties to secure formal, ‘English-medium’ education for their children as early as 4 or 5 years of age. Parents such as Manjula Devi argued, ‘*aage badne ke liye padai-likhayi zaroori hai*’ [education is important to move ahead in life]. She further stated that, if children stayed at home they would only play all-day long, and hence it was important to admit them to school as early as 3 to 4 years. This trend was stronger in Katihar, compared to the Nilgiris, where state provisions such as *anganwadi* centres were almost entirely dysfunctional. *Anganwadi* centres in Katihar opened irregularly; nutrition supplies provided through these centres were infrequent; caste-based discrimination and corporal punishment were frequently observed; and preschool learning activities were rarely conducted. In this context of failing and unreliable public services, a large market for private ECCE provision had emerged, consisting of private schools and ‘tuition’ centres within the villages, capitalising on parental anxieties to secure a better future for their children (see Sriprakash *et al.* (forthcoming), for more details).

In contrast, centres in the Nilgiris opened regularly and food was regularly provided. Despite the prevalence of casteism within the larger society, *anganwadi* staff were affectionate and caring to all children attending the centres, irrespective of their caste. Preschool education activities were more frequently conducted in comparison to Katihar. In the presence of reliable and quality ECCE institutions, the desire for private ECCE institutions was not as pronounced here.⁷ However, regular attendance of children at the centres was affected by geography and terrain. Other factors affecting participation included the centralised ICDS (*anganwadi*) curriculum implemented by Tamil Nadu state, which is informed by child development norms of Western psychology and frameworks of ‘developmentally appropriate practice’ (DAP). However, any representation of the knowledge and socialisation practices of ST communities was absent within the curricular framework and that significantly affected children’s and community members’ interest in formal schooling. For example, community members like Gopi, a 32-year-old Paniya man working with an NGO to improve the educational status of the community, drew a contrast between the freedom of space and movement enjoyed by children within the community and the forests, and the restrictive, narrow spaces of formal ECCE centres and schools, which children found difficult to adjust to. There were no resources in the curriculum to support children’s learning in their home (tribal) languages, community-related festivals or cultural practices .

The study concluded that, even when the presence of well-funded and functional public institutions enables greater trust and participation, that alone does not

⁷Within the context of our study, we observed only one child from the ST community within the pre-school section (with a strength of eighty students) of the private school. Due to this, and the relatively low degree of privatisation observed in Gudalur, the discussion on pedagogic practices and curriculum in this section mostly revolves around the issues related to the *anganwadi* centres.

necessarily mean they are responsive to contextual needs. For instance, although the state was much more active and functional in the Nilgiris, the ECCE practices were not necessarily responsive to local contexts and practices. In other words, the study strongly argues for responsive ECCE models that uphold the values of equality and non-discrimination, but allow for and actively facilitate the use and participation of local variations in terms of needs, language, practices, concerns and expectations without any harm (mental, emotional or physical) to children. The study also showed that the presence of civil society helps the community to facilitate dialogue and can perhaps have a role in negotiating the space and curricula. The methodology for the cost analyses and the costing principles drawn thereafter builds on these conclusions.

3. METHODOLOGY FOR THE COST ANALYSIS

As mentioned earlier, the methodology for the cost analysis of diverse ECCE interventions here is guided by a methodology that we developed earlier (CBPS 2018c) to estimate the economic costs of these interventions. The study had looked at analysing the cost structure of selected ECCE models in three Indian states (Delhi, Odisha and Telangana) by understanding the processes and components of the respective programmes and then costing all of those. In other words, rather than looking at the financial data and then estimating the costs, we first looked at the ECCE model and its processes, and then sought to look at the finances. A quality framework was derived from a critical survey of the literature, which listed all the desired processes. This framework then guided the questions on processes followed in particular models before collecting the cost details. This had two advantages:

- (1) In terms of cost estimates, it allowed us to take note of processes or inputs that would otherwise have remained unnoticed in the financial data. For instance, if a particular model used parents volunteering to teach at least once a week, we estimated the monetary cost of this input if it had to be paid for. Similarly, if a particular model had not included any expenditure on either rent or maintenance of a building because it was provided with physical space free of cost, we estimated the imputed costs for building and space, taking local contexts and prevalent prices or rents into account.
- (2) In terms of arriving at costing principles, this methodology helped us to pick processes that were considered important in the literature review to ensure the quality and responsiveness of delivery. For instance, to repeat the same example mentioned above, the presence of a process that allowed local knowledge and languages to be represented and be part of the curricular processes, was an

indicator of the 'responsiveness' of the model, and therefore important even as a costing principle.

The process and norms-based observation of models showed that, while none of the models had all the desired parameters (as listed in the quality framework), in general, the NGO models were better in terms of adequacy and suitability of space, community contact and implementation of the curriculum, compared to either the public or private institutions that were observed. Community engagement was almost absent in private institutions. While the age-appropriate focused curriculum was present everywhere, the quality of delivery varied. A number of NGO-based institutions had defined processes and support systems to implement them, unlike the other providers. The monitoring and reflection processes were weak everywhere, with some exceptions, with the exceptions again coming largely from the NGO sector. It was a similar case when it came to the payment of fair wages and grievance redressal systems. The public system has an elaborate supervision system, but its functioning varied across states. The private institutions were also very different from each other, although one common feature was their focus on teaching in English.

In accordance with the quality framework above, we first developed a process or component chart by identifying the processes or components that should ideally be part of any ECCE delivery model and then identified the cost heads that could represent those processes. This led to the creation of the process/component–cost heads matrix (Matrix 1). The financial data was collected against this matrix after ensuring an understanding of the respective models. This was followed by estimation of the costs for each model.

The cost estimates of the respective models had two steps:

- (i) estimating the total annual costs by taking monetary estimates of non-monetised processes/contributions and by annualising the capital investments, including opportunity costs, wherever suitable;
- (ii) estimating the capital expenditure and annual recurrent expenses; which did not include any opportunity cost.

The recurring costs in this analysis consist of the sum total of six different components:

- (1) infrastructure, space and resources (either given or imputed, as explained above);
- (2) salaries (teachers/caregivers/staff);
- (3) nutrition and auxiliary services;
- (4) learning material and curriculum development;
- (5) teacher/other training;
- (6) parent/community-centred practices.

Matrix 1. Process/component–cost heads matrix.

Processes/components	Cost heads					
	Rent/landbuilding	Capital goods facilities (furniture/other)	Salary	Consumable materials (physical) and nutrition and auxiliary facilities	Materials (teaching/learning)	Travel
Teaching rooms	building/desks, etc. (if relevant for the approach)	teacher's salary		teaching learning materials		
Playing	playground			play materials		
Sleeping	space*	bedding		food items		
Eating/nutrition	space*			auxiliary services		
Health						
Teacher training**	space*		trainer's remuneration		training materials	travel of teachers/trainers
Monitoring			salary/remuneration			travel of teachers/trainers
Managing	space**	furniture	salary			travel to headquarters, etc.
Community mobilisation**			salary	food items	training materials	travel to workshop place

* If separate from teaching/learning area

** Depending on the approach the model follows

Information regarding costs for individual components is gathered using both primary and secondary sources.

It is important to mention here that the cost estimation uses various reasonable assumptions for both monetisation and annualisation exercises, and therefore there could be some minor deviation between the estimates and the real costs. This could also happen because the cost and revenue-related information was often collected through interviews and an understanding of the processes of the respective models rather than from the account books, which were sometimes not accessible or, as mentioned earlier, sometimes did not include all the elements of the model that have cost implications. However, this does not have any significant implications either for comparative analysis or in terms of deriving inferences for the policy and costing of public programmes.

At the first stage of cost estimation, we estimated ‘total’ annual per centre and per child costs for providing ECCE services, taking both capital and recurrent costs into account. This is not the same as the annual running costs. Annual per centre or per capita running expenditure may be less as it often does not take initial capital investments into account. In other words, to reiterate, this exercise was to estimate the actual economic costs and not the expenditure alone. Both normative and statistical analytical methods have been used for analysing data for costing exercises and for calculating per centre/per child cost. Since we wanted to compare the economic costs of various models, we needed to annualise the estimates. Given that different models had started at different points in time, it was important to annualise the costs at current prices for the comparison.

The Appendix provides other details of the cost-estimation methodology, including the assumptions that were used.

4. A COMPARATIVE ANALYSIS OF ESTIMATED COSTS OF ECCE DELIVERY

We have kept the exact identity of the models studied anonymous and refer to these models by the abbreviations given to them in Matrix 2 based on their basic characteristics.⁸ Matrix 2 describes the models, their management and focus. This helps us in viewing the cost analysis from the perspective of the context in which it is operational and the approach it follows. In addition to the models outlined here, we also studied the cost structure of ECCE interventions through ICDS (known as *anganwadis*) in the

⁸This is because we obtained cost data for some models on condition of anonymity. Since we cannot reveal all names, we decided to reveal none for the sake of uniformity.

Matrix 2. Abbreviations used for the models and their management.

	Abbreviation	Model	Management
Private			
1	LRPS	Low-cost rural with pre-primary sections	private
2	LUPS	Low-cost urban with pre-primary sections	private
3	CRSP	Composite rural school with pre-primary sections	private
NGO			
4	CUSP(2)	Composite urban school with pre-primary sections	NGO
5	UPPS	Urban preschool plus primary school model	NGO
6	UPCS	Urban programme involving community stakeholders	NGO
7	CBCDC	Rural community-based child development centres	NGO
8	CUSP(1)	Composite urban school with pre-primary sections	NGO
9	UCM	Urban crèche model	NGO
10	TPCBCD	Tribal programme- community-based child development	NGO
11	UBM	Urban <i>balwadi</i> model	NGO
Public			
12	SSUP	State university supported urban pre-school programme+	public
13	ICDS Delhi	Government of India and Government of Delhi funded	public
14	ICDS Telangana	Government of India and Government of Telangana	public
15	ICDS Odisha	Government of India and Government of Odisha	public
16	ICDS Tamil Nadu	Government of India and Government of Tamil Nadu	public
17	ICDS Bihar	Government of India and Government of Bihar	public

+funded by the state government through a public university.

ICDS: Integrated Child Development Services.

states of Delhi, Odisha, Telangana, Bihar and Tamil Nadu.⁹ Although ICDS is guided by similar Government of India norms, the respective state governments are free to add components using their own resources. In all, seventeen models were studied for

⁹The first three states were part of the earlier study that CBPS undertook with funding support from Save the Children India. The last two states were part of the study undertaken with funding support from the British Academy.

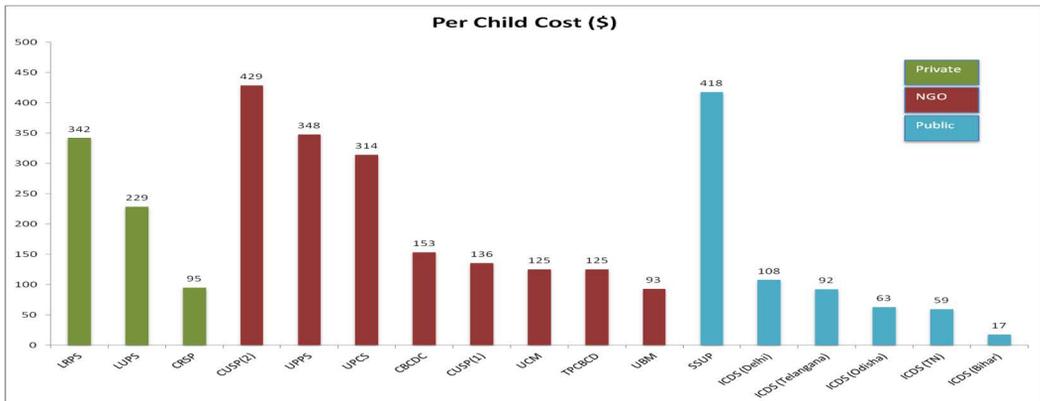


Figure 1. Total annual cost per child (US\$).

their costs, out of which three were privately managed, eight were managed by non-profit NGOs and six were managed by either state government (in five Indian states) or by a public body.

Figure 1 presents the per child total annual cost incurred in the various models studied. As we can see, there is a wide range across the various models, ranging from the lowest cost of \$17.5¹⁰, in the case of an *anganwadi* in Bihar, to \$428.78 in the case of an NGO-managed model. There is also wide variation within these management groups: within the institutions run by NGOs (non-profit), among those publicly managed and also between those managed by for-profit private entities. Nevertheless, two noticeable patterns emerge: first is that the cost is generally higher in urban models (LUPS, CUSP(2), UPPS, UPCS and SSUP) perhaps due to the high cost of space, human resources and materials, and second, that state-sponsored ICDS has one of the lowest costs. ICDS Delhi, which has the highest cost among the five studied ICDS models, is also largely urban and it is the rent for space that pushes up the cost there.

The component-wise analysis of the privately run models indicates that space, infrastructure, equipment and learning materials cover about half the cost while the other half goes to the wage/salary component in the two urban models (Table 2). This also reveals that they invest substantially in infrastructure to attract their clientele and create demand. In contrast, the rural private model is spending a larger proportion and also a larger amount on human resources, perhaps indicating that it is difficult to find qualified people in rural areas on low wages, whereas that is possible in urban areas, due to high competition for jobs and high unemployment rates. There is no component of community outreach or contact in the urban models while that is an important

¹⁰ All the cost data were originally collected in Indian National Rupees (INR) and later converted to US\$ using the conversion rate of US\$1 = INR 68.86.

Table 2. Component-wise distribution of the annual per centre cost of the private ECCE models.

	Infrastructure, space & resources	Salaries (teachers/caregivers/staff)	Food, nutrition and auxiliary services	Learning material and curriculum development	Training	Parent/community-centred practices	Total
LRPS	392.08 (4)	9026.85 (89)	NP	171.83 (2)	239.60 (2)	302.53 (3)	10132.90 (100)
LUPS	9367.89 (30)	15251.22 (49)	NP	6240.67 (19)	495.97 (2)	NP	31355.75 (100)
CRSP	1980.20 (14)	6574.28 (46)	NP	5445.56 (38)	277.23 (2)	NP	14277.26 (100)

Note: Amount in \$ per annum per centre.

Auxiliary services cover negligible amounts.

Figures in parentheses indicate the percentage share of the component.

NP—no provision.

element of the rural model. There is also no provision of food or nutrition in any of the three models. That indicates that the focus is on early childhood education and school readiness rather than on comprehensive early childhood care and development in these models. The absence of food and nutrition also brings the costs down, as this is one element that pushes up the cost for the NGO models substantially.

Salaries take up 70 per cent or more of the total annual cost of an ECCE centre if there is no provision of food and nutrition in the NGO-run models (Table 3). Nutrition covers 16–44 per cent of the total centre's costs wherever the provision exists. The proportion spent on food and nutrition is higher in urban models, indicating the higher cost of food in those locations. UCM is the only model where nutrition is the biggest cost component. However, UCM functions only as a crèche with an emphasis on nutrition. We can also see that there is hardly any investment in the component of training of teachers/caregivers or development of teaching material in any of these models, except for TPCBCD, where training is a major cost component. Located in a tribal location, TPCBCD plays a crucial role in the preschool education of tribal children through various modes, including facilitating the recruitment of tribal teachers in state-run ICDS centres. They also ensured that tribal children continued to access educational services by following up the children personally. This signifies the importance of not only having an adequate number of instructors or teachers but also of proper investment in training and capability building of the teachers in ECCE interventions. Another model located in the tribal area of another state, CBCDC, also puts a lot of emphasis on connecting with the community and engaging

Table 3. Component-wise distribution of the annual per centre cost of the NGO-managed ECCE models.

	Infrastructure, space & resources	Salaries (teachers/ caregivers/ staff)	Food, nutrition and auxiliary services	Learning material and curriculum development	Training	Parent/ community- centred practices	Total
CUSP (2)	7934.46 (26)	21073.62 (70)	NP	1006.76 (4)	NA	NA	30014.84 (100)
UPPS	4542.17 (12)	32658.85 (85)	NP	299.84 (1)	part of salary	751.87 (2)	38252.72 (100)
UPCS	1398.30 (12)	5540.45 (46)	3459.24 (29)	476.77 (4)	768.13 (6)	290.43 (3)	11933.71 (100)
CBCDC	362.65 (16)	1524.76 (66)	407.76 (18)	NA	NA	NA	2295.17 (100)
CUSP (1)	2332.21 (24)	6429.23 (70)	NP	730.98 (6)	NA	NA	9492.43 (100)
UCM	582.76 (19)	1090.20 (35)	1388.26 (44)	43.56 (1)	30.50 (1)	cost included in teacher's salary	3135.28 (100)
TPCBCD	164.69 (3)	3398.03 (53)	1019.41	348.41 (5)	1488.74 (23)	NA	6448.33 (100)
UBM	636.19 (34)	994.43 (54)	NP	145.22 (8)	82.77 (4)	cost included in teacher's salary	1858.61 (100)

Note: Amount in \$ per annum per centre.

Auxiliary services cover negligible amounts.

Figures in parentheses indicate the percentage share of the component.

NP—not provided; NA—data not available.

them in running the programme, including their contributions in terms of food and the use of local language materials. These examples tell us that it is possible to develop responsive models if there is freedom and space for local action and intervention.

The variation in the publicly funded and managed ICDS is explained by the difference in the level of funding that comes from the respective state governments.¹¹ While ICDS is a centrally sponsored programme where the union government and state government jointly fund it under a fixed formula, state governments are also free

¹¹ The table is based on a primary analysis of budget documents for each state for the relevant year. The analysis involved identifying budgets/expenditures on children between 0 and 6 years that cut across different programmes/functions even when analysing budgets and expenditures for the ICDS scheme alone. The expenses on ICDS, nutrition (for children, and for pregnant and lactating mothers) and *anganwadi* infrastructure are included.

Table 4. ICDS budgets and other child-related expenditures (0–6 years), 2017–18 (US\$ hundred thousands).

	Delhi	Telangana	Odisha	Tamil Nadu	Bihar
<i>Anganwadi</i> / ICDS	213.63 (37.31)	1252.16 (53.91)	1573.91 (40.74)	2433.27 (51.57)	2033.61 (40.78)
Preschool education			49.37 (1.27)		
Nutrition	214.36 (37.44)	936.68 (40.33)	1822.67 (47.18)	286.02 (6.06)	2594.49 (52.03)
<i>Anganwadi</i> infrastructure		67.51 (2.90)	321.50 (8.32)	29.04 (0.61)	232.36 (4.66)
Other	144.47 (25.23)	66.12 (2.84)	95.00 (2.45)	1969.53 (41.74)	125.45 (2.51)
TOTAL	572.47 (100%)	2322.47 (100%)	3862.46 (100%)	4717.86 (100%)	4985.91 (100%)

Source: estimates based on the respective state government (sub-national level) budgets in India.

Figures in parentheses indicate the percentage share of the component.

to add more than the minimum that is expected by this formula. As seen earlier, Delhi has the highest per child annual cost, and rent and nutrition account for almost 75 per cent of this expenditure. The Delhi government has no outlay for capital expenditure for construction and maintenance of *anganwadis*, as all centres are located in rented accommodation. Research has indicated that the amounts allocated for rent are often not adequate in many locations (CBPS 2018c). The high amount appearing in the ‘other’ section for Delhi in Table 4 is largely because of the cash transfer scheme, that is, *Ladli Yojana*.

Telangana has the second highest per child annual cost because of the increased expenditure by the state government in recent years. The increased allocations have gone to the higher salaries of *anganwadi* workers and new nutrition support schemes for both children and pregnant and lactating mothers. Feedback from the field suggested that the centres are responding well to these changes (CBPS 2018c). In Odisha, which comes next in terms of the annual per child cost for ICDS, the government has provided separate outlay for preschool education, and has increased its expenditure on nutrition and infrastructure development. Odisha has also adopted certain policies related to multilingual learning materials in the ECCE centres that are more responsive in nature compared to other states. This has also enabled the NGO-run models in that state to establish better cooperation and collaboration (CBPS 2018c). Tamil Nadu, unlike other Indian states, has adopted the policy of having two *anganwadi* workers, and this has helped better service delivery in the field (CBPS & UC forthcoming). In Bihar, where the annual per child cost is the lowest among the five studied

states, nutrition is the primary focus in *anganwadis*, where parents had grievances about the neglect of the preschool education component (CBPS & UC forthcoming). The comparatively lower allocations/expenses in the case of Bihar compared to the other states indicates lower expenditure on all components: fewer staff recruited, lower wages, and thus lower costs on wages as well as on training and teaching materials, and also the amount and quality of food being supplied.

The feedback from the field in these five states indicated a somewhat higher level of satisfaction about the services in Telangana, Tamil Nadu and Odisha compared to Delhi and Bihar. This indicates that higher number of working hours, higher level of salaries, greater attention to training and motivation of human resources, coupled with attention to monitoring by and accountability to diverse stakeholders, are perhaps more important in terms of ensuring a quality service than investing in infrastructure alone. Although this is not an either/or choice, investment in human resources seems to be a necessary condition while investment in infrastructure is a sufficient condition (CBPS, 2018d; CBPS & UC forthcoming).

When we compare these with the other publicly funded institution, SSUP (state government supported and attached to a university), we see a high cost share for the infrastructure, space and resources and salaries components (Table 5). An important consideration here is that this crèche cum preschool is situated within a university campus and thus has no space and infrastructure constraints. Additionally, it employs five teachers who are supported by an assistant professor of the university. Hence, while the costs incurred on these components are high in our analysis, these costs are not actually borne fully by either the state or the parents. This signifies the important role that collaboration with other local institutions with resources can play in improving the efficacy of ECCE interventions. A clear message that emerged especially in the backdrop of our quality framework that we used to examine the costs is that there are no shortcuts; quality delivery is linked with high expenditure on space, teachers, training,

Table 5. Component-wise cost structure of SSUP.

Cost head	Cost incurred (%)
Infrastructure, space and resources	11509.16 (31)
Salaries (teachers/caregivers/staff)	23771.49 (61)
Nutrition and auxiliary services	259.35 (0.6)
Learning material and curriculum development	2513.67 (6)
Training	625.77 (1)
Parent/community-centred practices	174.26 (0.4)
Total	38853.71 (100)

Note: Amount in \$ per annum per centre.

Figures in parentheses indicate the percentage share of the component.

curricular materials and support. This implies that it is important to have a minimum threshold of expenditure and costs that is required for the delivery of quality ECCE services. We will return to the issue of what this threshold could be in the case of ICDS in India in Section 6 after discussing the conceptual framework and guiding principles for the costing and monitoring of ECCE services.

5. CONCEPTUAL FRAMEWORK AND GUIDING PRINCIPLES FOR COSTING RESPONSIVE ECCE MODELS

What emerges from the discussion so far is that, while the costs and cost structures of different models are varied, this is not necessarily on account of making respective models responsive. The costs vary for a number of other reasons, including the presence or absence of a certain component, the relative emphasis on various components and the pricing of a particular component in that location. What also emerges clearly is that the needs of various diverse groups and locations are indeed not similar, and a unified and homogeneous cost approach does not work. Another message that emerged from the study is that money matters: high-quality and stimulating ECCE services require certain fundamental provisions and these provisions have significant cost implications. This implies that there is a threshold of costs that must be borne to ensure a particular level of ‘quality’ ECCE services. However, it is not clear what those thresholds are, how to arrive at those thresholds or how to ensure ‘responsiveness’ while deciding the thresholds. In addition, in the context of a large-scale intervention, such as ICDS in India, the challenges of scaling-up are daunting if they amount to creating space for flexibility at all levels while also ensuring accountability. Three particular challenges exist in such situations.

(a) Centralisation–decentralisation dilemma

This is a classic dilemma that any large-scale governance structure faces: what decisions should be made centrally and what should be left for the lower levels to decide. The issue of accountability is often linked with this dilemma, as decentralisation is also associated with control and power; if lower levels have control and power to decide, then this has to be accompanied by accountability mechanisms as well. Centralised norms and processes often become the easier choice in such situations, as they offer ease of implementation. It is easier to implement a uniform norm across a state or country than having decentralised norms that need mechanisms to ensure that those decentralised norms are justified and relevant. Uniform norms are also used at times in the name of equality: since they are the same for everyone, they are equal. The fact

that the same norms for diverse needs may mean they are iniquitous does not find a place in such arguments.

(b) Planning cost norms versus estimation cost norms

This is another common dilemma that large-scale governance structures face: definite cost norms are required for estimating the need for resources. And a state or country needs to mobilise the resources for a particular intervention and the estimation of resources calls for a fairly definite idea of both the requirements and their prices. And often, these estimation norms, which are fine as long as they are used for budgeting, also become planning and ‘scheme’ norms. This is where the problems start. Let us explain this through a simple illustration. If we decide that India on average needs public spending of US\$250 per child per year for ECCE provisioning for an estimated 100 million children, and the government makes a provision for US\$25,000 million per year in its budget, this is absolutely fine. But then if it is extended as a universal norm that every individual centre must get the same amount and must spend that uniform amount on every sub-component, it becomes rigid, and therefore unresponsive. Therefore, planning or scheme norms must be developed as being different from estimations norms.

(c) Absence of a framework that could provide the mechanics of a responsive model for carrying out costing exercise

This is the biggest challenge that leads to the above two—the use of estimation norms for planning, and that too in a centralised and uniform manner. By design, responsive models have to be flexible and accommodate variations and diversity. However, if everything is diverse and different, then how does one ensure any form of accountability and affirm the responsiveness or relevance?

This is where we are proposing a conceptual framework for governance that uses a set of costing principles and democratic processes to enable the emergence and sustenance of responsive ECCE models. This framework, we argue, is generic in its potential for application, and costing principles can be modified to suit a particular stage of education or other public service. Our conceptual framework and especially the costing principles are derived from an analysis of the models that we studied. While these were located in diverse contexts and locations, and the models differed in their approaches, commonalities also emerged in the form of essentials that must be covered. We used both these diversities and commonalities to develop the framework and principles presented here.

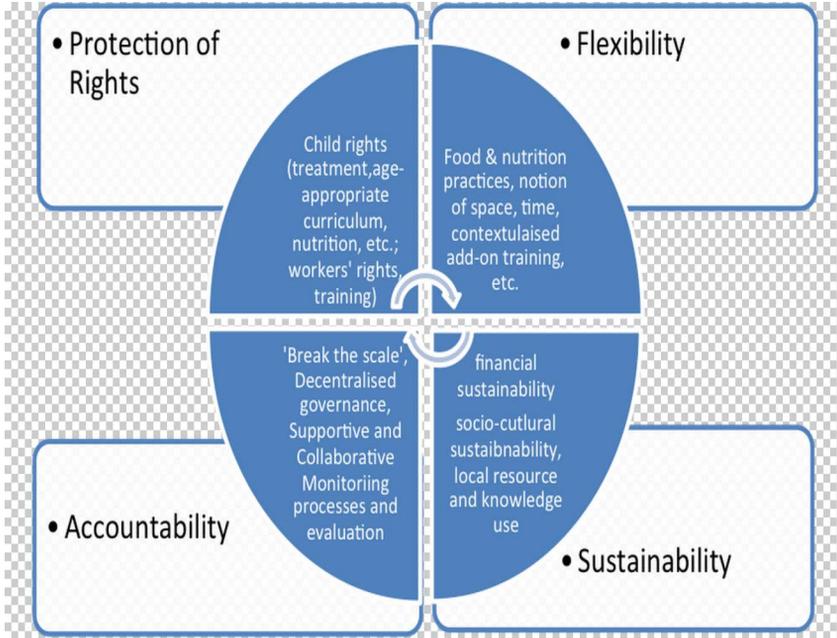


Figure 2. Conceptual frame for developing and costing responsive EECE models.

The conceptual framework that we propose (Figure 2) has four dimensions: (i) Protection of Rights, (ii) Flexibility, (iii) Sustainability, and (iv) Accountability.

(i) Protection of rights

Protection of rights for determining entitlements is the first dimension of the framework. This applies to both children—the primary users of the service—and workers/teachers—the primary providers of the service. We argue that, once we agree to adopting a rights-based approach, a number of other decisions become easier. We elaborate this further in our discussion on the guiding principles later.

(ii) Flexibility

This is the cornerstone of a responsive model in a diverse, stratified and unequal society. It is important to have the flexibility within the norms/entitlements defined by the rights-based approach to be able to respond to local and contextual notions, beliefs and practices. There could be tension between the two, but our research shows that, underneath the divergencies, there also exist notable commonalities that can help in maintaining adherence to the boundaries set by rights-based norms while also allowing for flexibility to respond to contextual needs. If there are formal spaces and

mechanisms for dialogue and negotiation at various levels, these could be sorted out locally. For instance, universal age-appropriate norms recommend the inclusion of particular physical activities for children in the 3–4 years age group, but our ethnographic study revealed that children in forest areas could have far more developed motor skills due to their proximity to forests and early exposure to certain kinds of activities, such as climbing trees (CBPS & UC forthcoming); in such contexts, the curriculum could be changed to bring in other activities to make it more relevant there.

(iii) Sustainability

The dimension of flexibility is also closely linked with sustainability. Sustainability is usually referred to only in the context of the financial sustainability of an intervention. We are arguing that sustainability has various sides, including financial. A responsive service delivery model is more sustainable when it is rooted in integrating the use of local resources and knowledge on various contours of the model (education, nutrition, space, etc.) that could make it closer to the communities it is trying to serve. In addition, it can also play a role in bringing down costs. For instance, the use of locally grown herbs and vegetables for nutrition based on the advice and engagement of parents and other local community members is a regular practice followed in the CBCDC model, which has also helped bring down the cost (CBPS 2018c) and therefore contributes to financial sustainability as well.

(iv) Accountability

One major challenge that any responsive or flexible model operating on a large scale in diverse locations faces is that of accountability; the presence of uniform norms and processes makes planning, budgeting, flow of funds and monitoring easier. We argue that the only solution to tackling the issue of scale is to break the scale. While centralised models may appear to be easier to implement and manage, the fact that the model has been extremely limited in fulfilling the policy objective also makes it highly inefficient and ineffective. Therefore, breaking the units of scale may help in developing context-specific responsive ECCE models. The presence of a third level of governance in the form of elected bodies for municipalities in urban locations and three-tier *panchayats* at village, block and district levels make it easier to create decentralised accountability mechanisms for the monitoring of decentralised ECCE service delivery using flexible cost and other norms. Our research has shown that the presence and inclusion of civil society organisations add value in creating

safeguards and developing mutual accountability between different institutions: bureaucracy, *panchayats* and non-profit organisations (CBPS 2018c; CBPS & UC forthcoming). Such collaborations not only help in creating greater confidence among the communities but also enable access to greater resources and knowledge, that can enrich the delivery content and processes, and in turn improve the quality of the ECCE service.

There is an obvious tension between these four dimensions of the conceptual frame, and the policy challenge lies in resolving that tension by having clearly defined boundaries for all the parameters without setting a definitive cost norm or a rigid process. While we realise that it is a challenge to design a framework for a responsive ECCE model that operates on a large scale, we argue that the presence of a set of guiding principles can help this happen. These principles provide the framework for developing flexible and responsive processes at decentralised levels, and act as boundaries beyond which the flexibility cannot be stretched. While we have listed some of these under the four dimensions of the conceptual framework in Figure 2, we prefer to list them together here as, in reality, they overlap across the four dimensions.

(a) The presence of a quality framework that determines the compulsory and desirable components for ECCE services and the linked cost heads

It is important to have a quality framework that defines the essentials of the programme (in this case, ECCE) and the respective cost heads. For instance, Matrix 1 in this paper identified processes such as teaching, playing, eating and monitoring as the essential components of an ECCE delivery centre, and maps them to different cost heads. This helps to ensure the presence of desired components/processes and to that extent provides the enabling conditions for quality.

The literature suggests that good-quality programmes with developmentally appropriate practices and curricula have been built over the years through large investments made in curriculum development. Towards this end, it is important to ensure that certain cost heads, such as budgets for curriculum development and training, are established as non-negotiable for both public and other ECCE providers. It is difficult to recommend a particular amount for this cost head, but the presence of the head would enable investment. Considering the continuous and cumulative nature of child development, ECCE programmes need to be planned appropriately, going beyond practices of simplistic downward extension of the school curriculum. In this context, it would be helpful to have a list of non-negotiables and non-acceptable practices rather than a list of must-do processes and practices. This could ensure diversity while simultaneously ensuring that programmes or models do not create adverse conditions.

(b) Ranges rather than uniform cost norms

Suggestive cost ranges can be provided rather than definite uniform/homogenous costs to allow for contextual and programmatic differences to have a place. These differences can arise from various aspects, such as location (which affect provisions such as rent), purchasing power parity (for example, for salaries) and other contextual features of models (for example, the number of working hours, qualifications, training or language or nutrition norms). We earlier argued that the cost norms for planning have to be different from those for the estimation of resources required. As mentioned earlier, the cost norms for planning need to be facilitative, allowing for contextual planning within a defined boundary of principles, rather than the definitive norms that we need for the estimation of resources required. All the pieces need not be equal and the same, but as a whole they need to be close to what has been estimated as resource requirements. The cost ranges could facilitate responsive planning.

(c) Ensuring minimum wages and social security provisions for teachers and others who deliver the programme

Professionalisation of teachers/caregivers, through better salaries is important for building better quality ECCE programmes, and better quality ECCE programmes are critical if we are worried about quality of education at all levels of schooling, from primary to higher. Any profession cannot be professionalised without paying the minimum respectable remuneration and social security benefits. We argue that, in the case of ECCE workers in India, the remuneration must be at least equal to the minimum wage rate for skilled workers. At present, it is far from that in most Indian states.

This principle emanates from the fact that currently only one model, UPCS, which is an NGO-run model, pays minimum wage based salaries to ECCE teachers, and that happens to be the highest wage among the studied models (Table 6). Although SSUP, the university-based publicly managed model also pays the same amount, there is a difference in the educational qualifications, and taking that into consideration, the SSUP wages are lower than those for UPCS. While this comparison does not allow us to account for differences in purchasing parity in different locations, it is clear that wages are much lower than the prevailing minimum wages in most cases. Payment of minimum wages is also important to establish that equality and non-discrimination remain non-negotiable principles for all stakeholders.

Our research studies also show the need for much deeper conscientisation of the ICDS teachers/workers in the context of a highly economically and socially stratified, and geographically diverse society (CBPS 2018c, CBPS & UC forthcoming). That also points towards the need for reforming the process of identification, education

Table 6. Comparative analysis of teachers' qualifications and wages for studied ECCE models.

Models	Average monthly gross salary (\$)	Teacher's/worker's education and professional qualification (minimum)	Daily hours	Estimated per hour wage (total monthly salary/working hours in a month)	Whether provision for any social security (Provident Fund, gratuity, etc.) exists
LRPS	156	10th pass	6.5	0.89	no
LUPS	114	graduation	6	0.77	yes
CRSP	65	12th pass	5	0.01	no
CUSP 2	109	DIET/NTT trained/graduate	6	0.73	yes
UPPS	157	post-graduation in ECE	6.5	0.96	yes
UPCS	213	8th/10th or 12th pass	8	1.07	yes
CBCDC	65	none, mother tongue	9	0.29	no
CUSP 1	109	DIET/NTT trained/graduate	6	0.73	yes
UCM	44	12th pass	7	0.25	no
TPCBCD	134	10th pass	6.5	0.01	yes
UBM	35	12th pass (flexible)	3.5	0.39	no
SSUP	189	graduation	7	1.07	yes
ICDS (Delhi)	73	matriculation	5	0.58	no
ICDS (Telangana)	152	matriculation	7	0.87	no
ICDS (Odisha)	58	matriculation	5	0.46	no
ICDS (Tamilnadu)	73	10th pass	7.5	0.39	yes
ICDS (Bihar)	65	8th/10th or 12th pass	7.5	0.35	no

Source: Authors' calculations based on CBPS (2018c) and CBPS & UC (forthcoming).

and training of these workers, but the introduction of such provisions also calls first for the fulfillment of the workers' right to receive minimum wages and social security as a basic enabler.

(d) Adjusting space and infrastructure norms to needs

Adequate infrastructural support is one of the prerequisites for meaningful ECCE delivery. A number of studies have identified space as a major constraint, especially in urban areas. At present, the only distinction that ICDS makes in its norms is between tribal and non-tribal areas; it does not do justice to the vast differences that exist in a large country like India. The current unit cost norm for ICDS infrastructure is based on one unit of building, which does not take account of the fact that the number of children that a centre serves or is likely to serve varies vastly. In other words, it does not take the per child need for space into account.

It would help to have a per child need-based space defined to act as the basis for estimates and the recommended unit cost for building should be given as a range for this space. Similarly, it is important to change the rent norms for urban areas and peg them to prevalent rates. This is a clear lesson emerging from non-ICDS models that, given the high level of migration and concentration of urban poor in urban localities, the need for providing ECCE services implies high expenditure on space. Similarly, the absence of any provision for maintenance in ICDS operating out of rented buildings needs another look, as most places to rent in urban areas where ICDS centres are located require maintenance and the owners/providers do not necessarily take on that burden (CBPS 2016).

Our research also informs us that that the notion of ‘adequate’ and ‘appropriate’ space can also vary from place to place and from one community to another. Here again, a responsive model demands the flexibility to interpret global norms in a socially relevant manner. For instance, our ethnographic work in Tamil Nadu showed that, in a sparsely populated, tribal area, there may be a need to keep the infrastructure more ‘open’ and accessible rather than closed and confining in order to give children a sense of continuity from home to institution.

(e) Linking nutrient expenditure to the required food and nutrition standards according to context

Under the ICDS, children are entitled to a morning snack (in the form of milk/banana/seasonal fruits or micronutrient fortified food) as well as a hot-cooked meal at an *anganwadi* centre. Given the high prevalence of malnourishment and the criticality of early years’ nutrition for learning as well as health in all stages of life, this is a very important intervention. India faces the particular challenge of child malnourishment, and hence this intervention is critical. ICDS in several states have faced the criticism of serving poor-quality food with a low level of nutrition. For instance, our ethnographic study in Bihar documents this complaint from parents and the community (CBPS & UC forthcoming). One solution could be to peg these to certain universal standard norm (for example, WHO (World Health Organization) norms), as practised by UPCS. However, from our ethnographic study, it emerges that the nutrient requirements for children in different contexts might be different. Nevertheless, it is important to define a minimum standard and then allow for local variations, taking local needs as well as knowledge into account, as practised by CBCDC. What is important to understand is that the benefits of this additional burden on public expenditure would be spread over the entire life cycle of these children, leading to enhanced well-being and productivity, which would easily offset the seemingly high burden at present.

(f) Location-specific partnerships for training and monitoring

This is an important principle for decentralising the accountability mechanisms and allowing a large number of stakeholders to contribute to both training for and monitoring of services. Keeping in mind the need to allow for diversity as well as the challenge of scale, promoting local-level partnerships is an important strategy to have. Partnerships can also take other innovative forms; for instance, learning from SSUP model, we suggest that university campuses, public sector enterprises and private companies can be called upon to provide space for ECCE centres not only for their own employees but also for publicly funded programmes catering to children from neighbouring locations. A number of other models studied, especially from tribal areas of Odisha and Tamil Nadu, suggest that the presence of a civil society organisation can play a role in improving the reliability and quality of services by engaging with the community. This indicates the need for recognising such partnerships as a way to address the need for contextualising the processes while also addressing the issue of scale.

(g) Regulation of private ECCE Institutions on similar principles

The presence of the private sector is significant in the ECCE sector in India and no kind of regulatory framework exists to define the parameters and ensure the provision of essential and desired processes. The ethnographic research at two sites clearly indicated the need for greater and appropriate regulation of non-state ECCE institutions. We clearly saw in Bihar that such institutions have mushroomed and they are not expected to be accountable to any norms or fee ceilings or outcome structures. It is important that all age/stage-specific norms for various components (such as space; teachers'/workers' qualifications, salaries and benefits; broad curricular guidelines with a list of don'ts to avoid the very early introduction of reading–writing; nutrition guidelines) become part of a 'non-negotiable' framework for running preschool/ECCE centres by any actor: state, for-profit or non-profit institutions. In addition, ceilings must be fixed not just on user charges/tuition fee but also for compulsory contributions in kind and out-of-pocket provisions that can place a burden on poor and disadvantaged families and communities.

The presence of an enabling costing framework and principles coupled with a regulatory framework would allow a the loosening of 'centralised' planning and cost norms, leading to the evolution of responsive ECCE models in the public sector. We also argue that the presence and implementation of such regulations is also likely to weed out a number of private players who would not be able to adhere to these norms, and would in turn put pressure on public institutions to perform better and be more

accountable to children and communities. In that context, we also question the argument that scale is an insurmountable challenge for developing responsive ECCE models. We propose that the use of this conceptual framework in conjunction with guiding principles will provide a mechanism that could help implement responsive models in letter and spirit. In the next section we briefly analyse the implications for adopting this framework for ICDS in India.

6. POLICY, INSTITUTIONAL AND BUDGET IMPLICATIONS FOR THE ICDS IN INDIA

The very nature of a responsive model is that it does not allow one to undertake a typical policy simulation exercise that calls for a making a choice based on definite alternatives. We, therefore, present here a brief analysis of the policy, institutional and budget implications for the ICDS in India. We start with financial implications and go on to policy and institutional implications.

As stated earlier, ICDS is India's flagship programme for early childhood education and nutrition that also combines maternal health and care in an integrated fashion. Although it started in the 1970s and was one of the first such integrated programme globally, recent evaluations have indicated a definite need for re-evaluation and revision (CBPS 2018a). One recent analysis of public expenditure for children for sixteen major Indian states shows that the early years of 0–6 is one of the most neglected age groups with the lowest spent per child in most of these states (Jha *et al.* 2019). Our own analysis in Section 4 clearly revealed that the per child annual cost is the lowest for ICDS among the models studied, and this included even those states where the state government has been adding substantial amounts of money to this scheme that is otherwise centrally sponsored. Therefore, the first implication is that the Government of India and state governments need to increase their allocations to this programme. Given that the federal policy functions in a complex manner, a sophisticated estimate needs to take state-wise gaps and consequent requirements into account. Here, however, we present a simple analysis to give an idea of the amount of increased public spending that is required.

This simple exercise is based on estimating the minimum cost threshold per child and multiplying that by the estimated population in the 0–6 age group. Going back to Figure 1, which compares the per child cost of various models, one can see that models such as UPCS, that follow the principles of minimum wages and WHO standards for nutrition, have a relatively higher per child annual cost (US\$314). However, Figure 1 also shows that community-based models in rural or semi-urban locations, such as CBCDC (US\$153) or TPCBCD (US\$125), have a relatively lower per child annual cost, even though they follow a number of the principles that we identified in the last

section. Assuming that (i) inter-location costs will be high due to big differences in purchasing power, (ii) economies of scale will allow ICDS to reap certain cost advantages, and (iii) the number of rural ICDS programmes far outnumber those in urban areas, we can safely say that the minimum threshold for ICDS could be located somewhere between these two. At the cost of sounding arbitrary, we can assume this to be somewhere close to at least US\$200–US\$220 per annum per child. This is two to twelve times higher than what is presently being spent in the studied states (see Figure 1). The gap is highest for states like Bihar which also happens to have the lowest overall per child spending among major Indian states (Jha *et al.* 2019). If we simply multiply this figure of US\$200 by the estimated child population of 165 million in this age group, it amounts to US\$3,300 million. Although we do not know the entire size of public expenditure on ICDS and related schemes, as it combines union and state government expenditure, this projected amount is likely to be at least five to ten times bigger. Even if one assumes that public services would cover only about half the relevant population, the country needs to increase its public spending by three to five times the current level on ECCE services.

Next, we discuss the institutional implications of adopting this framework and the set of principles. Towards that end we present a comparative matrix of present practices and the likely changed practices that adoption of such a framework would lead to, especially in terms of deciding cost norms:

Matrix 3. Nature of current and proposed norms/guidelines for ICDS/associated schemes.

Head/processes	Current norm/guidelines	Changed norm/guidelines
Teacher/worker salary	Fixed at a low rate and revised only periodically, the period of revision not being fixed or regular	Pegged to minimum skilled wage rate per hour, and therefore automatically revised if there is any change
Teacher training	No or varied allocations—generally very low and only at the time of induction in resource-poor states; slightly higher in resource-rich states	Compulsory allocation for induction and regular training on fixed periodicity; a range per centre/per teacher or worker annual allocation (with a ceiling)
Curriculum and teaching learning materials	No or a small amount for new centres; periodic additional amount in some states—periodicity not fixed	A range per new centre and a range for per child allocation annually (with a ceiling); with space for varied usage based on collective decision at decentralised levels

Matrix 3. *Continued.*

Nutrition	Wide inter-state variation depending upon specific state's priorities; central norms minimalistic and not based on any standards	A range based on universal standards, with space for local variations based on collective decisions at decentralised level
Space and infrastructure	Per centre specification; variation only for tribal and non-tribal or hilly areas	Per child space norm based on the range of activities (eating, sleeping, playing, leaning activities, mothers' activities) into account; cost range rather than fixed norm linked to local prices; rent norms pegged to space need and prevalent market rents into account
Health	Wide inter-state variations; varied practices with good coordination with the Department of Health in certain states and none of that in others for immunisation and regular health checkup	Incentivising active coordination with the Department of Health for immunisation and regular health checkup; based on 'good practices' adopted by states where the coordination is successful
Management and monitoring	No separate allocation in scheme in most states; the Women and Child Welfare Department (WCD), where the schemes is generally located, take care of this through the department's budget	Provision for periodic local management and monitoring by a multi-stakeholder group (government, civil society, <i>panchayats</i> , professional) with an in-built mechanism for providing feedback to the community through a small allocation

This matrix shows that the cost norms can be designed in the form of guidelines, allowing for local variations both in terms of the choice of how it is to be implemented and how much to spend. As mentioned earlier, the norms should act as guidelines for local programming and could also incentivise local mobilisation of human or financial resources through innovative measures, but without disincentivising the absence of such measures.

Next come the policy implications. The most important change that the policy needs in the context of ECCE in India is the recognition that it is one of the most important stages for the child's emotional, mental, intellectual and social development, as shown by various pieces of research in different contexts (CBPS 2018a). At present, despite the presence of a large-scale integrated programme, this view is not necessarily present in a coherent manner in the country and states. Although the

Government of India has adopted a progressive Child Policy¹², all the states are yet to evolve similar policies and, more importantly, back them with institutional mechanisms and budgetary allocations. Policy documents without the presence of commensurate institutional frameworks and adequate budget allocations cannot bring about much difference.

In the end, coming back to the issue of estimating the costs of service delivery, we argue that it is essential to undertake that task to be able to develop appropriate policy, institutional frameworks and costing norms. We also argue that in a large-scale and diverse country like India, it is important to promote responsive models not only in ECCE but also in various stages of education and other public service delivery sectors, and the conceptual framework alongside the guiding principles we have proposed have the potential for universal adaptation and applicability.

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APPENDIX

Estimation of annual value for capital deployed

In general, an estimation of the annual value of a capital cost is difficult because the capital is paid over a period of one or two years while the yields are spread over a much longer period. So, if we take the entire capital expenses, this would inflate the cost of the model in the initial period. If the assets are rented, then the annual rent can be used to represent the value of the capital resource used during the year. However, in our analysis of some models, capital assets like land and buildings are not rented and therefore some estimates are required for the annual value of used capital. To resolve this, we estimated imputed rent, which measures the annual value of the amount of capital used up each year and used this to arrive at the total annual costs of the respective models. This requires a careful assessment of the opportunity costs and depreciation of assets.

After estimating the annual current expenditure, per centre/per child, the annual cost has been arrived at by dividing the total cost of the programme by the total number of centres/children under that particular model. To estimate the per centre or per child cost for composite institutions that provide services for non-ECCE age groups or classes, each institution is divided into the number of classes/grades it offers. For the costs of the components that are used by all but where no clear divisions are available, the annual amount for that component is first divided by the number of classes. Then that amount is multiplied by the number of classes that the ECCE services account for, as explained below. For instance, if the centre caters to students from pre-primary to primary, then this means there are eight classes/grades in the centre (three for pre-primary and five for primary), and the annual cost of that component would first be divided by eight and then multiplied by three to arrive at the annual cost for the ECCE stage.

To calculate ECCE centre/preschool cost, the following method was applied:

To calculate the rental value of capital investments, rate of depreciation and interest rates were estimated first. The interest rates were used to estimate the

opportunity cost, which refers to the alternative possible uses of the asset. In many cases, assets like land and buildings are pre-existing and donated by the community, government or someone else, but these buildings and land may have had alternative uses and the decision to build or use it for a particular purpose may mean the sacrifice of an opportunity to build or use it for something else. In such cases, we have used interest rate plus rate of depreciation to calculate the rental value of assets (land and buildings). We used interest rates that could have been earned through alternative usage of the same asset to be equivalent to the bank rate of the Reserve Bank of India on first-class bills of exchange (6 per cent per annum in 2017); based on the assumption that this is modest and reasonable. For assets that have been created just for that purpose, only the depreciation rate is considered for calculating the rental value of the assets, as one may already be paying interest on loans taken for that purpose.

The rate of depreciation is a much-disputed item. Depreciation depends upon the lifespan of the asset. For the purposes of this study, the working life of a permanent or semi-permanent building is assumed to be fifty years and that of computers and equipment to be five years. The life of all other assets is assumed to be ten years. To calculate the rates of depreciation, a straight-line method is used which assumes equal rates for each year. This may be a simple assumption and the reality may be a little different, but it suits the needs of the present analysis.

Table A1. Parameters used in for calculation of rental value.

Component	Lifespan	Depreciation rate
Building	50	2
Furniture and fixtures	10	10
Vehicles	10	10
Computer and equipment	5	20
Others	10	10

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Shifting the discourse from survive to thrive: a qualitative exploration of beliefs, actions and priorities for early childhood development in Uganda

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Abstract: Investment in early childhood produces healthier and more productive adults, benefiting families, communities and countries. Carers need support in providing nurturing care, but there is little information on what is required to achieve acceptable, affordable and effective early childhood development (ECD) in resource-constrained environments. Uganda has identified human capital development as a key priority. In Uganda, an estimated 75–80 per cent of 3–6-year-olds have no toys and are not engaged in learning. Uganda has established a national Secretariat to support ECD and there is political will to define a multi-sectoral programme with low resource requirements. This study aimed to understand the characteristics of an acceptable, scalable and effective ECD intervention in Uganda. This study finds the discourse around ECD has not yet moved from ‘survive’ to ‘thrive,’ with nutrition and child health programming such as immunisation widely conflated with ECD. Intelligence is seen as innate, with carers believing they have little influence over cognitive development. Language and beliefs around child stimulation will need to be carefully constructed, given the significant and persistent negative impact of poverty and malnutrition on both child survival and the potential for child stimulation in this context.

Keywords: Early childhood development, parenting, child stimulation, cognition, Uganda, peer coaching, nutrition.

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1. BACKGROUND

Early childhood is a critical development phase (Irwin *et al.* 2007), yet an estimated 250 million children in low- and middle-income countries (LMICs) are at risk of not reaching their developmental potential (Black *et al.* 2017). Advances in brain research and longitudinal studies have demonstrated that adverse early experiences have negative effects on brain, language and cognitive development (Black *et al.* 2017, Luby 2015, Noble *et al.* 2015, Shonkoff *et al.* 2012) as well as the crucial attachment and early learning processes that underpin healthy development (Weaver 2014). Poverty, poor nutrition and unstimulating home environments are key risk factors contributing to poor developmental outcomes (Grantham-McGregor *et al.* 2007, Muhoozi *et al.* 2016). Intervening early can address these risks and increase future earning potential while lessening the risk of poor physical and mental health (Gertler *et al.* 2014, Campbell *et al.* 2014, Walker *et al.* 2011). Based on an increasingly compelling volume of research evidence, the case for investment in the early years has been made in three *Lancet* series on Child Development in Developing Countries (2007, 2011 and 2017).

This evidence has led to growing global commitment to intervene at scale in LMICs (Rubio-Codina *et al.* 2016) and Sustainable Development Goal 4.2 aims to improve access to quality early childhood development (ECD), care and pre-primary education. Trials in a range of settings have provided positive proof-of-concept for high-contact home visits, centre-based care and parenting groups among other strategies (Britto *et al.* 2018, Yousafzai *et al.* 2018). However, as Yousafzai *et al.* (2018) note, few effective ECD interventions have been delivered at scale in LMICs, and fewer have benefitted countries in the sub-Saharan African region. There is also little information on the implementation strategies required to achieve feasible, effective and sustained delivery of ECD interventions (Yousafzai *et al.* 2018). The potential for impact from early intervention has thus led to an increased focus on the necessary content of ECD interventions (Chan 2013, Lake 2011, Schady 2015) and the need for a clearer understanding of the characteristics of a scalable intervention in low-resource environments. This research agenda becomes more critical given that, in low-income settings, ECD will compete with other Sustainable Development Goal targets for limited funding and other resources.

Uganda is an ODA-eligible¹ 'least developed country' where children are not reaching their developmental potential. Low levels of psycho-social stimulation are provided to children below 5 years of age (Britto *et al.* 2013, Muhoozi *et al.* 2018, Singla *et al.* 2015) and Britto *et al.* (2013) report that 75–80 per cent of 3–6-year-olds do not have toys and are not engaged in learning activities. Six interventions have

¹OECD official development assistance.

already proven effective in improving child developmental indicators in Uganda (Boivin *et al.* 2013, 2017, Britto *et al.* 2013, Morris *et al.* 2012, Muhoozi *et al.* 2018, Singla *et al.* 2015). Of these, two targeted preschool or school-aged children (Boivin *et al.* 2013, Britto *et al.* 2013), thus missing a critical early life period. The remaining four targeted key affected populations including HIV-positive children (Boivin *et al.* 2017), displaced families (Morris *et al.* 2012), impoverished mothers (Muhoozi *et al.* 2018) and socially disadvantaged families (Singla *et al.* 2015), and may not be generalisable across the population. Stimulation activities differed across the six studies, but all were high intensity and unlikely to be feasible at scale, targeted vulnerable groups rather than the general population, and none targeted the first year of life. The need to understand what would constitute an effective, affordable and scalable ECD programme for all rural children in Uganda and other low-income settings remains.

This study aims to explore the likely characteristics of an acceptable, scalable and effective ECD intervention in the Ugandan context. To achieve this aim, the study had four specific objectives:

1. To understand the policy landscape that exists to support ECD activities and map current ECD activities.
2. To explore carers' knowledge, attitudes and practices regarding child stimulation and understand their aspirations for children's growth and development.
3. To observe the potential for stimulation in the home or community, including opportunities for children to play and learn and the materials available for use as effective, safe and acceptable toys.
4. To investigate likely opportunities for, and challenges to, the expansion of ECD in Uganda.
5. The findings from this study are presented below, after a description of the study setting and methods used.

2. STUDY SETTING

Uganda is an East African country bordered by South Sudan, Kenya, Tanzania, Rwanda and the Democratic Republic of Congo. Uganda has a population of 41.5 million people (World Bank 2017), an average life expectancy of 60 years for men and 65 years for women, according to the World Health Organization, and one of the highest fertility rates globally at 5.8 children per woman (CIA 2017, World Bank 2018). Uganda's economy is largely dependent on rain-fed agriculture and adverse weather conditions have caused average annual GDP growth to slow to 4.5 per cent in the five years to 2016, compared with 7 per cent in the previous period (World Bank 2017).

While Uganda surpassed the Millennium Development Goal target of halving poverty by 2015 (UBoS 2018), vulnerability to falling back into poverty remains high and the proportion of the population living below the national poverty line rose from 20 per cent to 21 per cent between 2013 and 2017. Addressing this and other challenges, Uganda's second National Development Plan (NDPII) 2015/16–2019/20, aims to support Uganda's progress to middle-income status by 2020. This plan aims to strengthen Uganda's competitiveness for sustainable wealth creation, employment and inclusive growth. The plan prioritises investment in the five areas with the greatest multiplier effect on the economy, one of which is human capital development.

Uganda's government thus sees investment in human capital as central to the country's development and an Education Sector Strategic Plan (ESSP) 2004–2015 was developed to support that policy imperative. The ESSP aimed to address three critical concerns, including the concern that primary schools were failing to provide sufficient literacy, numeracy and life skills (MoES 2010). While the ESSP focuses on the creation of quality schooling environments and training teachers, the challenge of achieving a sufficient standard of primary schooling may begin before children start at school. Just 37 per cent of children aged 36–59 months attend any form of early childhood education in Uganda (UBoS & ICF 2017) and the majority of pre-school children have no access to stimulating materials at home (Britto *et al.* 2013, Muhoozi *et al.* 2018, Singla *et al.* 2015).

National commitment to improving ECD is multi-sectoral in Uganda, reaching beyond the education sector. This is exemplified by the establishment of The National Integrated Early Childhood Development Policy (NIECD) Secretariat at the Ministry of Gender, Labour and Social Development (MoGLSD). The Secretariat also includes the Ministries of Health and Education. The Secretariat developed and disseminated an integrated national ECD policy (MoGLSD 2016a) and policy action plan (MoGLSD 2016b). The policy emphasises multi-sectoral and disciplinary collaboration at all levels of government with a focus on supporting families to create an enabling environment for a child to develop and thrive (see Box 1 for key elements of the policy). The policy action plan sought to improve ECD outcomes through a new cadre of community health extension workers (CHEWs), thus formally rolling out ECD activities through the health sector. Uganda's health system operates at tiered levels with the village-based village health teams (VHTs) at the first, that is community, level, and the national referral hospital (Mulago) the last (seventh) level. VHT members are volunteers, resident within the communities to whom they minister services. They provide health promotion, health education, treatment and referral for malaria for children below 5 years of age but also for diarrhoea and pneumonia, collectively known as integrated community case management (iCCM) (MoH 2010a). The introduction of a new cadre of health extension workers was to complement the

Box 1. Key features of Uganda's national ECD policy.

The policy is 'anchored within' international frameworks including the United Nations Convention on the Rights of Children (United Nations 1989), the UN Sustainable Development Goals and the UN Convention on the Rights of Persons with Disability (United Nations 2006).

Vision: All children in Uganda from conception to 8 years of age grow and develop to their full potential.

Mission: To ensure equitable access to quality and relevant ECD services for holistic development of all children from conception to 8 years.

Goal: The major goal of the policy is to provide direction and guidance to all sectors for quality, inclusive, coordinated and well-funded ECD services and programmes.

Objectives:

1. To harmonise existing ECD policy related goals, objectives, strategies and initiatives within and across all sectors.
2. To set, improve and align standards for ensuring access to well-coordinated, quality, equitable and inclusive ECD services within and across sectors.
3. To build and strengthen capacity of systems and structures to deliver integrated quality and inclusive ECD programmes.

Guiding principles:

- Focus on holistic development of the child incorporating physical, mental, social, emotional and linguistic domains while recognises they are interwoven.
- Promote access to services equitably and does not discriminate by gender, geography, location, race or tribe.
- Should be flexible, inclusive and adaptive to local, contextual needs related to children living with HIV/AIDS, disability, in conflict situations or who are homeless.
- Families, parents and caregivers have the primary mandate for the care and upbringing of young children. ECD services should engage with and empower families in the care and development of their children.
- Leadership and accountability of ECD shall be shared across sectors.
- The Ugandan government's commitment to the UNCRC constitutionally mandates ECD as a right.
- Public private partnerships are central to the delivery of ECD programmes with all levels of government, community, local leadership and parents/carers to be involved.
- Programmes should focus on the continuum of care from conception to age 8 years.

Main focus areas:

1. Early childhood care and education—focus on all ages and equitable access to quality care and developmentally appropriate early learning and stimulation opportunities.
2. Food security and nutrition—focus on community mobilisation for adoption of health nutrition behaviours.

3. Child protection.
4. Primary healthcare, sanitation and environment—‘The main thrust for this will be prioritising stimulation, care and development aspects in the traditional child health and survival programmes to ensure children not only survive but also thrive.’
5. Family strengthening and support.
6. Communication, advocacy and resource mobilisation—focus on equitable service delivery and engagement with stakeholders at all levels.
7. Multi-sectoral partnerships and coordination—focus on cross-disciplinary and sectoral partnerships and collaboration.

VHT cadre, but this strategy was abandoned in 2018 due to cost concerns (Namuli 2019). However, the political will to support ECD through multi-sectoral activities remains.

Our study was based in Luuka district, Eastern Uganda. The district comprises 43 parishes and 281 villages, with a population of 262,100 people. Luuka has a population growth rate of 2.1 per cent, a fertility rate of 7.3 per woman and an average household size of 5.4. The district has a young population, with 17.7 per cent (42,129) aged between 0 and 4 years (UBoS 2016). The provision of basic health and social services is the responsibility of the Ugandan government and its development partners, through the district health and social service delivery mechanism. According to the NIECD Secretariat Annual Report 2016, the traditional leader (the *Kyabazinga*) of Busoga had endorsed the NIECD policy and pledged to advocate for positive ECD practices in his kingdom.

3. METHODS

In-depth interviews (IDIs) and focus group discussions (FGDs) were conducted with carers, including mothers, fathers and grandmothers, antenatal clinic nurses, VHT volunteers, opinion leaders such as imams and priests, and policy stakeholders at national and district level. Two interviews with policy stakeholders were conducted in Kampala and one in Jinja, while the remaining interviews and group discussions took place in Luuka District.

Five fieldworkers fluent in the most common language in Luuka District, Lusoga, as well as Luganda and English, were recruited and trained. Training explained the background to the research, the content of the topic guides and how to use them, data collection processes and standards, recording and documenting interviews and group discussions, the principle of informed consent and the participant consent process,

and the data collection schedule. Topic guides were translated into Lusoga and Luganda by Makerere research staff and fieldworkers and back translated to English to assess accuracy.

3.1 Sampling and recruitment

Local leaders were consulted before commencing with recruitment to ensure that all activities had local approval. Purposive recruitment of research participants was then conducted by community informants. Recruitment aimed to garner diverse perspectives from a range of carers with at least one child or grandchild under the age of 1 year. Similarly, nurses and VHT volunteers with differing experience levels were invited to participate, as were policy stakeholders with a range of roles and responsibilities for health, education or welfare.

Individual informed consent was sought from each participant in their preferred language, after they had been provided with a briefing on the project, the voluntary nature of their participation and how their data would be managed. Each participant was provided with a project information sheet. Participants were asked to consent to being sound recorded, for their data to be securely stored and transported to the UK, and for their de-identified testimony to appear in academic reports and peer-reviewed journal articles.

Respondent characteristics, the number of respondents and the content of different research encounters are detailed in Table 1.

3.2 Data collection, recording and analysis

Pre-tested topic guides were developed by the research team based on the research aim and objectives. Interviews and group discussions were then facilitated by trained fieldworkers using the topic guides, and ranged in duration from 45 to 120 minutes. All research encounters were audio recorded. The recordings were then transcribed into English from the original Lusoga, Luganda or English by the fieldworker who conducted the interview. Daily feedback was provided to fieldworkers during debriefing sessions led by DS, MO and RN. The debriefing provided a forum for the research team to review and refine topic guides, trouble shoot methodological challenges and conduct initial, collaborative identification of themes within the generated data.

IDI and FGD transcripts were analysed thematically, using an iterative, inductive–deductive approach called analytical induction (Braun & Clarke 2006). The original topic guides helped structure the thematic analysis, but scope remained for data to be generated in unanticipated content areas and for themes to emerge from the data

Table 1. Methods, respondents and content for each research encounter.

Method	Respondents	Content
IDI	12 Mothers, each with an average of 4 children 8 Antenatal care nurses 10 Village Health Team volunteers	<ol style="list-style-type: none"> 1. Knowledge, attitudes and practices regarding child stimulation. 2. Aspirations for children's growth and development. 3. Opportunities for stimulation in the home or community. 4. Current ECD activities.
FGD	10 Policy stakeholders and opinion leaders including representatives from; the Ministry of Gender, Labour and Social Development (1), the Ministry of Education and Sports (1), a district health officer (1), an assistant district health officer (1), a district ECD focal person (1), the Assistant Secretary acting for the Chief Administrative Officer (1) in Luuka District, an ECD-focused NGO operating in Luuka District (1), an imam (1) and a priest (1) from Luuka District, and a representative from RHITES-EC ² (1).	<ol style="list-style-type: none"> 1. Current ECD policy and activities. 2. The potential for additional ECD activities. 3. Which systems would be best placed to deliver future activities. 4. The opportunities and challenges for current and future ECD activities.
	2 Groups of mothers, each with 7 participants 2 Groups of grandmothers, with 6 participants in the first group and 7 participants in the second 2 Groups of fathers, each with 6 participants	<ol style="list-style-type: none"> 1. Knowledge, attitudes and practices regarding child stimulation. 2. Aspirations for children's growth and development. 3. Opportunities and challenges for ECD implementation.

(Braun & Clarke 2006). Provision was made to recruit additional respondents in the event that data saturation was not reached, but this was not necessary. When multiple examples of each theme were identified during the daily debrief meetings the decision that data saturation had been reached was taken and additional research encounters deemed unnecessary. The daily debrief was a key strategy used to mitigate the risk of inappropriately interpreting the findings.

²The USAID-funded Regional Health Integration to Enhance Services in East Central Uganda project (USAID RHITES EC) aims to improve the quality, access and utilisation of health care services through an integrated service delivery approach. <https://www.urc-chs.com/projects/rhites-ec> (accessed 10 May 2019).

The field team was co-led by Ugandan and UK-based researchers. Perspectives of all team members were solicited to triangulate interpretations of data meaning.

3.3 Ethics

The proposal and all project tools were approved by the Makerere University School of Public Health Higher Degrees Research and Ethics Committee (MakSPH-HDREC approval number 572) and the University College London research ethics committee (project ethics identification number 12565/001). The research team also obtained permission from the Luuka District Health Officer, and from the ‘in-charges’ of health facilities visited. Written informed consent was obtained from each participant in the study.

4. RESULTS

The results address the objectives of the study in three main sections: First, the policy landscape and current activities are described (Objective 1). Second, carer knowledge, attitudes and practices regarding child stimulation are explored, along with carer aspirations for children and the potential for child stimulation in the home or community (Objectives 2 and 3). Finally, likely opportunities for, and challenges to, the expansion of ECD in Uganda are described (Objective 4).

4.1 The ECD policy and activity landscape in Uganda

As described in Section 3, policy stakeholders, opinion leaders, nurses and VHT members were asked about current ECD policy and activities either nationally or in the community.

Awareness of current ECD policies and activities differed by the hierarchical level and mandate of respondents. National-level representatives from the Ministries of Gender Labour and Social Development (MoGLSD), Education and Sports (MoES), and Health (MoH) were concerned with policy formulation, coordination of activities and monitoring and oversight. While at the sub-national level, policy stakeholders were concerned with advocacy for ECD and the delivery of programmes with an ECD component or focus.

we are responsible for developing policies and these guidelines and operational standards. The government has supported us in that, even creating advocacy, we are carrying out seminars in the various districts to advocate for ECD.

IDI stakeholder MoES

Stakeholders at both national and district levels tended, however, to emphasise the importance of nutrition or health interventions when discussing child development priorities. Only one policy stakeholder mentioned child stimulation or activities focused on cognitive development. None opposed cognitive development, but the majority did not describe any associated ongoing activities, articulate the value of such activities or what they entailed outside of maternal or primary school education. ECD appeared either to be categorised as a lesser priority than improving health and nutrition, or to be equated with improving health and nutrition:

you can't talk of a child being polite, you can't do another thing when a child has nothing to eat.

Policy stakeholder

At the health facility level, according to the majority of respondents, ECD is integrated into reproductive, maternal, newborn and child health service provision. Policy stakeholders and nurses described delivering ECD through health education talks for pregnant mothers and in young child clinics, encouraging the use of antenatal care and child health services like immunisation. Respondents further described how ECD communication was highly nutrition focused, with facility-based health workers conducting nutritional assessments for children. During postnatal care and young child clinics, presenting children are assessed for malnutrition or any other illness and treated or referred depending on the condition and this is seen as 'child development'.

Child development begins during pregnancy thus in antenatal we assess these mothers for nutrition, educate them about feeding ... then during labour you still encourage this mother to take feeds immediately after delivery we initiate breastfeeding within the first hour which is a key in child development then we also continue emphasising it during postnatal, we encourage immunisation after birth.

IDI antenatal clinic nurse (ANC) nurse

Policy stakeholders also described ECD projects which focused on promoting household food security, post-harvest handling of food and improving nutrition practices.

In Luuka district we are implementing a model pioneered by USAID and UN World Food Programme. This model is looking at improving food security at household levels and we look at how we can empower households in these communities to improve on their food security. In so doing we promote good agronomic practices, those are practices which help households to improve on yields.

District-level policy stakeholder

At the community level, VHTs were described as conducting ECD activities that included breastfeeding education, nutrition support and growth monitoring.

In short, while the formal national ECD policy was known, or known of, by many national-level policy stakeholders, no policy stakeholder, opinion leader, nurse or VHT worker interviewed for this study, described activities related directly to child stimulation or cognitive development.

4.2 Carer knowledge, attitudes, practices and aspirations

This conflation of ECD with nutrition and physical growth was reflected again in responses from carers while exploring their knowledge, attitude and practices with respect to ECD. Similarly, their aspirations for children focus on physical growth, while the opportunities for stimulating play are limited by the time-consuming activities needed to survive in an agrarian economy. Each of these results are explored in more detail below, drawing on responses from mothers, fathers, grandmothers, VHTs and nurses.

4.2.1 Knowledge, attitudes and practices

i) Child development is growth, survival and love

When discussing child development, all carers largely focused on physical health and needs including adequate nutrition, the provision of shelter, enabling quality sleep and ensuring children are fully vaccinated. Carers want their children to be physically healthy, describing distress and frustration when they fell ill.

A small number of respondents made a weak link between nutrition and brain development, while a larger number of respondents emphasised the importance of showing love to children.

A healthy child should eat well, breast feed well and play well because such things help a child to develop well ... and also if he sleeps well with good beddings to cover him. ... If a child is feeding on cold food the brain will be weak and will not develop mentally well and also if the child also feeds on only one type of food like cassava alone the brain will not be excited

FGD mother

Love is the most important. If you show love, she grows well. Will not fear you. A kid will feel good all the time. You easily play with the child. Because of the love exhibited, even when sick, a child will still be jolly.

FGD mother

Indeed, some VHTs identified interactive play as a means through which carers show love for their children, but noted that few carers engaged with children in this way. Moreover, they indicated it was women who played this role, suggesting that fathers were less likely to play with a child.

There are some women that play with the children because some of them when we tell them about love and care for the children, they take it seriously. There are others that will not take it seriously and they may not play with the children as they will understand things differently.

VHT IDI

ii) Grandmothers explained that learning started at home

Grandmothers identified a role for carers in child learning. Within the group discussions all grandmothers suggested that, apart from mimicking other children, learning started in the home and with a child's primary carers. They explained that learning and development occurred through interactions between children and their carers, such as when asking a child to fetch something. While they primarily highlighted teaching functional motor skills and the good manners described later, one grandmother also highlighted the importance of talking to children for the development of language.

It is you the care take who has to teach the child, for example you will start to tell the child that you go and bring for me that mug, and the child will go and bring it, you go and bring the sauce pan and the child will go and bring it, then you will send the child to go and bring the kettle, and it will bring it.

FGD grandmother

4.2.2 Aspirations for children

i) Intelligence is important but cannot be shaped by parents

Despite a primary focus on children's physical development, carers also express a desire for their children to be intelligent. Intelligence was, however, most commonly felt to be 'god-given' or innate. Only a minority of respondents indicated that intelligence might be developed by parental modelling of desirable actions or encouraging play with a variety of toys.

Some children are born when naturally they are not going to be intelligent however much you feed them. Such children have their brain weak like that forever they will never be intelligent.

FGD mother

For a child to be intelligent you allow him to play with different toys... buy different things that make noise [the rattles] that make the noise and the child will feel excited and become intelligent.

FGD mother

When VHTs were asked what makes a child intelligent, they described adequate nutrition and meeting a child's basic physical needs. When asked how they would know if a child was intelligent, several VHTs described a child who was physically

strong and seldom ill, who was able to meet physical developmental milestones on schedule, and who could verbally communicate.

So when you give the child this breast milk it will help the child to grow healthy and intelligent and when the child reach the age of eating solid food you have to feed the child with balanced diet, this will make the child very healthy and intelligent.

IDI VHT

Some VHTs did suggest that care and guidance were important but this was usually accompanied by emphasis on the importance of physical development and health.

What makes this child intelligent is all about the care you give the child or the behaviour you put in this child as long as slhe is feeding well and his/her body is happy not falling sick you always know what is happening to the child and you take to the health centre for medication.

IDI VHT

ii) The importance of good manners and discipline

Carers placed strong emphasis on the good behaviour and manners of children. Children respecting elders, greeting and serving visitors and helping carers without resistance were desirable attributes and promoting children's capacity to demonstrate these traits was a priority.

When you have good manners, you are trusted and people will welcome you always and you will never lack.

IDI mother

The objective of good manners was commonly described with reference to the carer's relationships with the community. Carers commonly described negative behaviour as due to a carer's lifestyle choices and stressed the need to raise your child well in order to maintain a positive community image.

When I am with my child and he is growing well and has good manners it gives me respect from other people of the community because of those good manners.

FGD mother

Carers explained that young children are taught appropriate behaviour by carrying out small errands and being disciplined when they do not adequately perform them. At a young age, girls are taught to assist mothers with chores and in fulfilling household responsibilities, with boys and girls both expected to care for other young children. The parental role in instilling desired behaviours was highlighted.

Good behaviours start with the parent, you keep telling him what to do and he learns with continuous telling him.

IDI carer

All carers discussed disciplining with corporal punishment. Most carers described beginning by the age of 1 or 2 years. Grandmothers and fathers shared the same positive views of such punishment although among grandmothers it was more pronounced, with some suggesting that physical punishment was critical in deterring the child from inappropriate behaviour.

You tell them not to spoil water and you find them to have done it and many other things so I cane them because they are annoying and so they learn and grow up knowing it.

IDI carer

4.2.3 *The potential for child stimulation in the home or community*

The responses highlight how carer–child interactions must fit in around daily chores and responsibilities. Most carers, VHTs and nurses described infant feeding in relation to the carers' work schedule, particularly those who are subsistence farmers—colloquially known as those who 'dig'. Commonly infants either accompany mothers to work or are cared for by other young children while carers complete their work.

While carers all claimed that they did play with their children, the results suggest this is not structured play, is of short duration, may not be highly stimulating and is predominantly initiated by the child. Children largely interact with other children.

you can't say I have this time for playing with my kid ... ; now let me say me, who works if I break for lunch I go home and play with my kid for like ten to twenty minutes. ... For those who stay at home the mother can play with the baby while preparing food, at the time of breastfeeding then when she is feeding food and the baby is not breastfeeding at the time of sleeping when the baby wants to sleep. You do the household chores while playing and attending to your child, if the child wants something you give as you are talking, as you are doing the chores.

IDI nurse

The results point to a near universal belief that play is for its own sake. Few respondents suggested that play contributed to social or cognitive development, although some described play as teaching basic skills like sitting, walking or following commands. A minority focused on play as providing happiness, which they saw as important for child development.

If you play with the child this will prove to this child that you love the child and the child will be happy and the happiness will make this child grow well and will make the child healthy and intelligent, compared to a child who is neglected by the parents whose will always be miserable, a child's playing make the child grow well because the child will always be happy.

IDI VHT

Nearly all carers reported that they hadn't bought toys or provided access to picture books. However, during the FGDs several mothers explained that they tell traditional stories and riddles and sing traditional songs. Others explained that dolls, balls and rattles were locally made out of available materials (often banana fibres) and provided to young children.

I remember my mother used to sing for me and therefore I also sing for my children and tell them poems, riddles.

FGD mother

According to nurses, fathers seldom had time for interaction with their children and such interaction was only possible among the few who stayed at home. Fathers in the FGDs strongly advocated for the importance of nurturing care for children, but it was unclear whether they delivered this care themselves. It was suggested by all mothers interviewed that they did not.

The most important is to show and tell their children that they are loved then the rest can follow.

FGD father

The only instance where carers viewed play as learning was when girls pretended to cook and carry children. This was seen as good preparation for future responsibilities. Most carers described a gender difference in play, with boys described as playing football and games, while girls played games that mimicked female roles. Girls were seen as sharper than boys because they learn communication and responsibility more quickly as they assist carers in the kitchen and when caring for young children.

Boys should have different toys because girls have their own games and boys too. Boys like football ... running but also girls can do that but girls like playing like delivering babies, cooking.

IDI mother

This suggests that girls may be exposed to greater carer interaction in the study context because of the time they spend with mothers while cooking, cleaning and looking after children. This is in contrast to boys who, according to respondent testimony, more commonly play on their own or with other children.

4.3 Opportunities for, and challenges to, the expansion of early childhood development in Uganda

The opportunities for expanding ECD activities in Uganda, and the likely challenges to effective expansion, were explored with all respondents.

4.3.1 Opportunities for the expansion of effective ECD activities

i) Village health teams are already in place

Policy stakeholders strongly identified the potential for VHTs to be more engaged in implementing ECD activities, given their close contact with families. Nurses were described as providing health education at the facility level, while at the community level, VHTs already engage with young children and families and are trusted.

as they are doing those other activities they do of home visiting they [VHTs] are able also to identify babies who need special care and also as they do home visiting they also continue to talk to caretakers on breastfeeding all these babies under the two years. They encourage mothers to exclusively breast [feed] until 6 months.

District-level policy stakeholder

However, despite their multifaceted roles, VHTs are described as lacking ECD knowledge and it was suggested that they would benefit from ECD-focused training and mentorship.

They [VHTs] are doing something but not in relation to early childhood development, like they have been identifying children who need referral to the facility and refer to the health facility, children with danger signs ... in regard to early childhood development they haven't been oriented on how that programme runs.

Policy stakeholder

Stakeholders noted the high level of esteem in which VHTs are held within the community and strongly advocated for them to play a role in any ECD-focused activities.

ii) Mobilise local opinion leaders

Policy stakeholders also suggested that any services provided by VHTs could be usefully complemented by ECD communication from locally trusted religious leaders, who are often themselves parents. These opinion leaders are already commonly used to support local health campaigns, including mass immunisation campaigns. Stakeholders suggested that collaboration with these local leaders represented an opportunity for more collaborative and effective ECD communication in the community.

the health workers first come to us the religious leaders and ask us to mobilise for them, and they know that on Friday women come in big numbers in the mosque so they take an advantage of this day and we also announce it in the mosque and all women go direct for immunisation after prayers.

Religious leader

to me, churches play a very big role in transforming the lives you know it is part of saving the soul, and it depends on how well the leader or the imam packages his statement.

District-level policy stakeholder

iii) Multi-sectoral collaboration is key

Stakeholders across ministries and from NGOs (non-governmental organisations) emphasised the need for ongoing linkages, collaboration and communication between programmes, organisations and sectors. They saw this as an important opportunity for ECD programming, given the apparent will for positive change. One stakeholder from the Ministry of Education also articulated the need for collaboration within the government, aware that a chain of awareness and communication is needed from policy makers to those directly implementing policy if ECD activities are to be implemented effectively with the desired impact.

so we are doing this to ensure that at least we are able to reach the ground so that the services can benefit the final beneficiary who is the child, because without doing that, you can't sit at the ministry and expect each and every idea to move down, you have to work in collaboration of all the communities.

IDI stakeholders

One stakeholder articulated the need for NGOs to collaborate closely with district officials in order to build capacity, so the services they currently offer might in due course be successfully handed over to the public service. One such way they aim to do this is through holding quarterly forums for CSOs (civil society organisations) to come together, share what they are doing, and determine how they can support one another.

what we are doing as RHITES [Regional Health Integration to Enhance Services in Eastern Uganda] is to capacity build the district government people to work with us just that in case RHITES goes away the district can take away the programme, and that is a key component and the emphasis is really put on it, because if you want your programmes to take off the district people have to work with you.

IDI stakeholder

iv) Ensure that national ideas translate into local priorities

In addition to collaboration with district and sub-county leadership at the strategic level, many stakeholders mentioned the importance of including local leaders in discussions around implementation. Engaging such leaders, including government officials, religious leaders and local chiefs, was considered essential in particular for effective training and monitoring of VHTs, follow-up with families, and the reinforcement and legitimisation of information.

But as you engage the VHTs at that level you need in one way or the other to involve let us say the sub-county leadership to give it more weight, though the VHTs can do the work but if they are backed up by the sub-county leaders it will be a lot stronger and it will achieve results.

IDI policy stakeholder

4.3.2 Challenges to the expansion of effective ECD activities

i) Low levels of knowledge and awareness

Nurses reported a general lack of adequate knowledge and skills in ECD. Poor parental knowledge in particular, was cited by many as a constraint to better ECD outcomes. For instance, nurses frequently mentioned parents' lack of knowledge regarding appropriate feeding practices after weaning as a contributor to malnutrition at community level. According to nurses, parents had food but did not know what food to give their children as part of a healthy and balanced diet.

The common causes of malnutrition actually it is just lack of knowledge ... yes, lack of knowledge of what to give their children. They have the feeds but they don't know what to give to their children.

IDI nurse

This contrasted somewhat with the testimony of the carers themselves and that of VHTs described later in this section. In the FGDs, carers reported awareness of the need for balance in diet.

When you are pregnant they advise you to eat energy-giving foods like vitamins and proteins like eggs, dodo [greens], cabbages you take the soup and your boost your haemoglobin levels.

FGD mother

VHTs cited food shortages as a critical challenge to child development, as described later in this section.

ii) Carers are time poor

A key challenge to improved ECD is the competing demands on carer time. VHT descriptions of carers struggling to balance all of their responsibilities and finding time for their children echoed carer testimony. A carers' many responsibilities take up the majority of their day, with very little time left to spend focused on children.

Mothers give less time to their children, you find the mother busy in goats, pigs and cows, so you find the only time the mother has is when breast feeding the child.

IDI VHT

iii) The role of fathers—a potential opportunity?

Respondents describe fathers as playing almost no role in ECD, despite being the main household decision maker. Usually, the practical role they played was limited to the provision of financial support, with little involvement in play or stimulation. This situation was justified by nurses and VHTs, who suggested that the primary role of the father was to ‘provide’, while the primary role for the mother was to ‘care’.

Most of the men don't know what they are supposed to do at home or what they are supposed to provide to women to support their children at home.

IDI nurse

During FGDs with mothers, discussion centred on the lack of fathers’ ability when providing for the needs of children. At the same time, this was often tempered by an emphasis on the love between babies and fathers—and the importance of children being familiar with both parents.

The child feels happy when playing with the father, even when the mother goes somewhere when the child is used to the father the child will not get problems so when the child is only used to the mother when you leave the child with the father this child will have hard time because helshe is not used to the father, and by the time you come back the child will have even fallen sick.

FGD mother

iv) Poverty and food insecurity

Severe acute malnutrition among children was described as common in the community. When probed further, policy stakeholders and VHTs attributed malnutrition to persistent food insecurity. They described the role of sugarcane companies in leasing or purchasing land and growing cash crops rather than food crops. In areas where other food crops are grown, they tend to be sold off for money at the expense of family members’ diet. This creates a critical food shortage and poor dietary intake resulting in malnutrition.

These days people grow sugarcane for sale and there is not enough land for growing food for home consumption.

VHT member

Poor nutrition is compounded by other conditions of poverty according to respondents. Nurses describe how poverty impedes access to care. Sometimes carers do not seek care because they cannot afford the transport when they are referred.

The finance is not there now ... at home to support these babies like feeding, clothing, long distances from the villages ... to the health centres.

ANC nurse

v) Lack of perceived support for frontline workers

Challenges were also identified related to support for health workers; in particular, in terms of appropriate demonstration materials and incentives for them to perform as required. Three ANC nurses reported that, often when providing what they described as ECD information, they lacked visual materials to aid their presentation and, in their view, the traction of their communication was lost.

We lack these things to demonstrate to the mothers when we are health educating them, and we don't have money, to make these mothers know that I am supposed to do this and this.

ANC nurse

Several stakeholders noted that VHTs provide services in a voluntary capacity and their VHT activities take them away from paid work. They suggested that long working hours and covering long distances to reach community members adversely affected their work and income. Stakeholders further suggested that more reliable support supervision, refresher trainings and the provision of resources such as transport could assist VHTs.

They need to get knowledge through refresher trainings or those workshops.

District policy stakeholder

They move in the whole village without transport, but you are moving and you have to reach these people but you don't have a bicycle, and this is a very big challenge, and they are also saying that they are not given any incentive they expect them to do voluntary work but that voluntarism is dying off slowly, they also don't want to work for free, they are de-motivated.

District policy stakeholder

5. DISCUSSION

This study aimed to explore the likely characteristics of an acceptable, scalable and effective ECD intervention in Uganda. To achieve this aim, the study had four specific objectives. The first objective was to understand the policy landscape that exists to support ECD activities and map current activities in Uganda. The early years are a critical and now well-recognised period for intervention when seeking to positively influence health and development outcomes through the life course (Grantham-McGregor *et al.* 2007, 2014). This period spans the antenatal period through to school entry. In terms of access points for public sector services, opportunities exist for intervention by the health, education and social services sectors among others. Uganda

has recognised this shared responsibility by establishing a National Integrated ECD Policy and Action Plan to be overseen by The National Integrated Early Childhood Development Policy (NIECD) secretariat (MoGLSD 2016a, 2016b). The findings of this study indicate that there is strong political will to support ECD at all levels, but while national policy makers understand the policy imperative and the national plan, there may be weaker translation of policy into district and community-level activities. At these levels, ECD activities are equated only with health and nutrition activities, with little emphasis on child stimulation or the importance of cognitive development. This contrasts with the emphasis of the NIECD (see Box 1) and the body of evidence widely advocated in the scientific literature in support of creating high-quality ECD environments described briefly in the introduction section of this paper and exemplified by the three *Lancet* series on Child Development in Developing Countries (2007, 2011 and 2017). This lack of local emphasis on child stimulation and the importance of cognitive development constitutes both a challenge and an opportunity:

- Moving the narrative from health and survival, to stimulation and thriving in accordance with the NIECD policy will be a challenge—particularly if we are to avoid setting up competing agendas.
- However, the lack of a ‘stimulation programme’ suggests an opportunity for positive impact which has not yet been exploited in this context.

The second objective of this study was to explore carers’ knowledge, attitudes and practices regarding child stimulation and to understand their aspirations for children’s growth and development. Carers’ responses reflected those of policy stakeholders, opinion leaders, nurses and VHTs in the primacy given to physical health and nutrition as ‘ECD’. The findings of this study suggest that parents are focused on the physical development of their children and that they see the achievement of this as mostly contingent upon their capacity to provide shelter, nutrition and treatment for their child when they are ill. Respondents felt that normal development should follow if these foundations are provided. Intellect and cognitive development were largely viewed as innate and beyond the influence of carers. Carers did, however, explain the importance of showing love to support child growth, happiness and possibly also development, but simultaneously and almost universally praised the use of corporal punishment in eliciting compliant behaviour from children. Play was not seen as stimulating but simply something that children do to remain occupied and happy. Future studies should aim to understand what language could be used to describe stimulating play in such a way that parents will believe in the importance of their involvement and their efficacy as change agents for ECD.

Carers in our study aspire for their child to behave well and be well mannered. They see the willingness to greet strangers and attend to their needs as well as fulfil domestic

chores as indicative of such traits. These characteristics were considered to be on public display and critical to the wider social standing of the family. That is, the views of neighbours and community members matter and the esteem their child and, by association, the carer is held in is important. Respondents also noted that they reference the approach of parental peers and even incorporate witnessed parenting practice into their own approach when they view it as positive. In this and other comparable settings, we thus advocate for an approach based on peer influence and wider community engagement. A focus on influencing social norms around child interaction would be needed.

The Saturation+ approach to behaviour change implemented by Joanne Murray and colleagues in Burkina Faso may represent a useful model to guide such an approach. Murray and colleagues propose repeated exposure (that is, *saturation*), the use of locally resonating *stories* and an evidence-based strategy (that is, science) to influence social norms. The principle is that stories have a dramatic hook or narrative that resonates with those targeted for influence and that key messages are absorbed, communicated and confirmed by other, complementary, messaging they are exposed to (Murray *et al.* 2015). The Saturation+ strategy has been used within a mass media campaign, although it could potentially be adapted to a community-based model in the Ugandan context, possibly led by VHTs, as explained later in this section.

As noted in the introduction, previous ECD interventions in Uganda targeted older children or vulnerable groups and were delivered at high intensity. This pattern is echoed regionally (in East and Southern Africa) where ECD-focused interventions commonly focused on nutrition while measuring development outcomes (Manji *et al.* 2014, Prado *et al.* 2017, Stewart *et al.* 2018), utilised parenting programmes for stimulation but were targeted to vulnerable groups such as children living with foster families (Worku *et al.* 2018) or were delivered at high intensity through home visits (Wallander *et al.* 2014, Worku *et al.* 2018). Two studies nevertheless have particular resonance for what may be effective in the Ugandan context. Worku *et al.* (2018) advocate integration of ECD strategies into existing services based on their work in Ethiopia, while a programme in Zambia initiated fortnightly, parent-led groups recruited from home visits with a curriculum based on WHO's Care for Development package (WHO 2012) that had a significant impact on stunting and child language development (Rockers *et al.* 2018). Adopting the Saturation+ strategy may enable the development of an effective strategy that can be delivered at a lower intensity (that is, less frequently than fortnightly) and that is, as a result, scalable. In so doing it may also positively influence the development of children more broadly, across development domains (that is, cognitive, motor-skills and social emotional development in addition to language) and including those living in diverse circumstances. It may have impact through the life course and enable intervention at multiple stages from conception to age 8 years in accordance with the inclusion priorities of the NIECD (see Box 1).

The third objective of this study was to observe the potential for stimulation in the home or community, including opportunities for children to play and learn and the materials available for use as effective, safe and acceptable toys. This study found few opportunities for consciously stimulating activities, as families are both time and resource poor. Links between play and stimulation are also poorly understood. Practical approaches for incorporating stimulating activities and communication with children into busy daily lives may be advocated for and modelled by respected opinion leaders and peers. To achieve this, we propose three additional emphases for carers building on the Saturation+ approach. We call this Saturation++ and the additional emphases are as follows:

1. Self-efficacy or ‘you can do it’—emphasis here is on influencing carers’ belief that through carer actions a child can achieve valued developmental and life outcomes. This emphasis draws on the social cognition theories of *self-efficacy* (that is, repositioning beliefs around the cause of change and the belief that they can enact this change) and *outcome expectancy* (that is, the notion that if they commit to a course of action a valued outcome may be achieved) (Bandura 2001).
2. Steps and skills or ‘how to do it’—emphasis here is on carers’ understanding the child stimulation and nutrition actions they can take to achieve valued outcomes for their child and how they can incorporate these actions into their daily lives. The key here is that this content is delivered and modelled by peers. This emphasis draws on theories of social norms, modelled behaviours, social identity and coaching (Chung & Rimal 2016, Haslam *et al.* 2010). We also note the positive impact of previously implemented peer-led parenting groups in Uganda (Singla *et al.* 2015).
3. Second nature or ‘everyone is doing it’—emphasis here is on the recommended actions being commonplace and normal. This again draws on social identity theory where the normalised actions of a collective one feels a member of are more easily adopted and routinely practised (Postmes & Branscombe 2010).

It is important to note that most study respondents noted the influence of poverty on child development in Luuka. Indeed, the pervasive impact of poverty cut across the findings. While there is evidence for the protective influence of psycho-social stimulation on child development (Walker *et al.* 2011), it will be important for any programme to be respectful of local priorities if advocating for change. Important local challenges, such as the influence of the sugarcane companies, were also noted by respondents. Engaging with such priorities and building a locally appropriate strategy is, we suggest, most likely to be achieved through a community-led approach.

The final objective of this study was to understand the likely opportunities for, and challenges to, the expansion of ECD activities in this context. When describing

likely challenges, respondents described a lack of knowledge and awareness, carers being time poor and fathers' traditional role as provider of resources but not care. Poverty and food insecurity may also undermine stimulation efforts at the household level, as previously discussed, but also at the systems level if there is a perceived lack of support for frontline workers and VHTs working as volunteers rather than paid staff.

Conversely, findings from all respondents highlighted five potential opportunities for the expansion of effective ECD activities in Uganda; i) There is an opportunity to help parents understand the significance of stimulating activities; ii) VHTs are already in place as trusted and respected members of the community, with close links to families and their young children; iii) local opinion leaders are willing to be mobilised to engage families in ECD activities; iv) multi-sectoral collaboration can be strengthened to support effective ECD delivery; and v) national ECD policies can be better translated into local priorities with a clearer set of activities and support.

Throughout this study, and from varied respondents, the VHTs were identified as ideal change agents. Across respondent groups, VHTs were felt to provide reliable information and advice. Carers feel confident in their advice and already seek their counsel and services. We propose that this existing cadre of workers might be mobilised to implement community-based, ECD-focused interventions that are embedded within existing systems and would therefore require little or no further staffing to take to scale. The important role of community health workers broadly (Kok *et al.* 2017) and Ugandan VHTs (Babughirana *et al.* 2016, Musinguzi *et al.* 2017, Turinawe *et al.* 2015) as resident advocates for positive local change has been recognised in the literature. Advocating additional responsibilities for VHTs will require consideration of the need for community and governmental support to maintain and optimise their performance that has also been commonly noted (Kok *et al.* 2015, Mays *et al.* 2017, MoH 2010b). The findings of this study suggest that such strategies may also be complemented by the support of local community-based opinion leaders, such as imams, priests and nurses. Mobilising opinion leaders also recognises that the achievement of improved child development outcomes requires support from parents, families and their wider communities; otherwise known as nurturing environments (Britto *et al.* 2018). Finally, on the basis of these findings, and supported by other published evidence (Aboud *et al.* 2018), we propose a greater focus on the role of fathers in ECD and advocate for their formal inclusion in any future ECD activities in the Ugandan context.

5.1 Study limitations

While the design of this study took steps to counter the risks of social desirability bias influencing the results, we cannot be sure they were completely effective. Fieldworkers fluent in the local language were recruited and trained over a week in the study purpose

and design. Daily debriefings were held where methodological challenges were discussed and data interpretations were challenged and validated. Despite these mitigating strategies, some respondent testimony may have been led. We needed to explore key areas of content and by introducing them we may have indicated their importance and cannot be sure respondents did not produce testimony they felt may please the researchers. In particular, we recognise that there is currently no language for—or clear understanding of—child stimulation and cognition at the family level. While we explored this area within this study, the terms used may have been inappropriate. This area in particular warrants further enquiry to develop a more nuanced understanding of appropriate terminology. We also recognise that exploring the question of how these results occurred in the context may benefit from ethnographic studies to explore local parenting practices and critical studies to explore in greater depth the political and economic conditions in which parenting occurs in Luuka.

6. CONCLUSION

This study sought to generate evidence to support the development of a scalable ECD programme in Uganda. It did this by exploring current ECD policy and programming, political and community will to support ECD activities and the opportunities for, and likely challenges to, the expansion of ECD activities in this context. This study also explored carer and community notions of child development and aspirations for the development of children.

We find that there is strong political and community support for ECD programming in Uganda, although that agenda is currently synonymous with child growth and nutrition. Shifting the discourse from ‘survive’ to ‘thrive’, and challenging views that: intelligence is innate, corporal punishment is positive and compliant children desirable, will require the shifting of social norms at a wider community level. Existing community and health system (VHTs) structures are potentially already in place to implement a community-based approach. The findings presented here appear to support a strategy based on challenging and influencing social norms around parenting practice to achieve saturation; the Saturation++ approach. On the basis of the evidence presented in this paper, we argue this can be achieved at community level through peer influence, the mobilisation of opinion leaders, engaging VHTs as change agents and garnering the support of community leaders.

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Changing trajectories of learning and development: experimental evidence from the Quality Preschool for Ghana interventions

Sharon Wolf and Morgan Peele

Abstract: We examined how exposure to two intervention programmes designed to improve the quality of pre-primary education in Ghana—the Quality Preschool for Ghana project—impacted children’s rate of growth in academic (literacy and numeracy) and non-academic skills (social–emotional and executive function) across two school years. This cluster-randomised trial included 240 schools ($N = 3,345$ children, $M_{\text{age}} = 5.2$ at baseline) randomly assigned to one of three conditions: teacher training (TT), teacher training plus parental-awareness meetings (TTPA), and control. We found some evidence that the interventions altered children’s rate of growth in academic and non-academic skills for the full sample, and one unexpected finding: TTPA had negative impacts on growth in numeracy skills. When examined by grade level and gender, TT improved trajectories of younger children, and the negative effects of TTPA on numeracy were driven by boys. Implications are discussed in the context of global early childhood education policy, and teacher professional development and parental engagement programmes.

Keywords: Early childhood education, cluster-randomised trial, learning, Ghana, sub-Saharan Africa, early childhood development.

1. INTRODUCTION

Countries across the world, including in sub-Saharan Africa (SSA), have made tremendous strides in increasing children's access to primary schooling. Despite being in school, however, a large proportion of children fail to learn functional literacy skills in the first three years of primary school (Gove & Cvelich 2011, Uwezo 2013). This 'learning crisis' (World Bank 2018) has drawn increased focus on improving the need to improve educational quality and children's readiness for school. As a result, many governments around the world are increasing investments in pre-primary education as a way to promote children's learning and development so that they are ready to learn. Yet similar concerns about the quality of pre-primary education have been raised (Yoshikawa *et al.* 2018), suggesting that expansion in pre-primary education may not be reaching its potential to improve young children's school readiness.

The potential for early childhood education (ECE) to enhance children's development may be large in parts of the world where children face extreme levels of risk. Compared to other regions, SSA has the largest proportion of young children experiencing extreme poverty (66 per cent (Black *et al.* 2017)), as well as the largest number and proportion of 3- and 4-year-olds (29.4 million; 44 per cent) failing to meet cognitive and SE milestones (McCoy *et al.* 2016). At the same time, SSA has lower ECE enrolment rates, at around 18 per cent, compared to other regions (McCoy *et al.* 2018). Given extremely low learning levels in primary school across SSA countries (Sandefeur 2016), ECE may be one approach to boost children's school readiness and ultimately improve learning trajectories.

As children transition to school, they draw on a multitude of social, emotional, behavioural, and academic competencies. These early learning skills, or 'school readiness skills', are crucial for successful transition and adaptation to school (for example, Blair & Razza 2007, McClelland *et al.* 2000). Academic and non-academic competencies are interconnected, with non-academic skills, such as EF and SE skills, supporting children's abilities to learn academic content in the classroom. As more children enrol in pre-primary education in LMICs, it will be important to understand how they acquire both academic and non-academic skills, and the role of quality pre-primary education in improving the trajectories of skills acquisition.

In this study, we report on longitudinal impacts of the Quality Preschool for Ghana project (Wolf *et al.* 2019a, 2019b), an evaluation of two intervention programmes designed to improve the quality of pre-primary education in Ghana. We evaluate programme impacts on the growth of children's literacy, numeracy, SE, and EF skills by modelling the linear slopes (rate of change) of children with three waves of data collected over the course of two school years. We also examine whether programme impacts on growth differ by grade level (that is, for children over two

years of pre-primary school over the course of the study versus children in the second year of pre-primary school and first year of primary school over the course of the study), and for boys and girls.

1.1 School readiness skills

School readiness can be defined broadly as an outcome of the early years that covers multiple dimensions of development, including early academic skills, SE and EF skills, and aspects of physical health (Snow & Van Hemel 2008, UNESCO 2013). Children's school readiness skills develop rapidly during the preschool years due to children's increasing neurodevelopmental capacity for higher order thinking (Shonkoff & Phillips 2000, Zelazo & Carlson 2012), as well as increased environmental demands (for example, in the classroom if children are enrolled in quality pre-primary).

Children's literacy and numeracy skills at school entry are powerful predictors for later academic achievement because they form the foundation for acquiring higher level academic skills (Duncan *et al.* 2007). Literacy and numeracy are domain-specific skills that children develop through a cumulative and iterative process, as children are continuously refining and building on previous knowledge in order to learn new and more advanced material (Cunha *et al.* 2010). This process highlights the need to master foundational content early in their schooling, and provides some insight into why children who do not acquire basic literacy skills before grade three have a much harder time learning to read (Jordan *et al.* 2009).

In contrast, SE and EF skills are domain-general, non-academic constructs. A growing body of research has also identified non-academic skills as core to young children's school readiness (Blair 2002, Duncan *et al.* 2007, Raver 2003). In particular, EF skills include the higher order cognitive processes that help children control impulses, maintain and shift attention, and manipulate information in working memory (Blair 2002, Miyake *et al.* 2000). SE skills generally include the abilities to recognise and manage emotions, appreciate the perspectives of others, constructively handle interpersonal conflicts, make responsible decisions, and form positive relationships (CASEL 2017, Ellis *et al.* 1997). Such prosocial skills are considered important in fostering positive peer and teacher relationships, emotional competencies, and social problem-solving skills (for example, Coolahan *et al.* 2000, Denham & Burton 2003, Greenberg *et al.* 1991, Ladd *et al.* 2000).

There is consistent evidence in high-income countries that EF is positively related to children's academic skills during the transition to school (Blair & Razza 2007, Brock *et al.* 2009, Bull *et al.* 2011, Matthews *et al.* 2009, McClelland *et al.* 2007, Ponitz *et al.* 2009). Increasing evidence in low- and middle-income countries (LMICs)

shows that EF skills are correlated to learning both cross-sectionally (for example, Obradović *et al.* 2019, Raikes *et al.* 2019, Willoughby *et al.* 2019, Wolf *et al.* 2017) and longitudinally (Wolf & McCoy 2019). There is also some evidence, but far less, that SE skills support learning outcomes in the transition to kindergarten (Arnold *et al.* 2012, Curby *et al.* 2015, Graziano *et al.* 2007, Izard *et al.* 2001, McKown *et al.* 2016).

1.2 Impacts of pre-primary education in developing countries on school readiness skills

The preschool period is one of rapid development that underlies the acquisition of academic and non-academic skills (Shonkoff & Phillips 2000). Over the past fifteen years, there has been a rapid expansion of ECE services around the world (UNESCO 2015), providing a growing platform through which children's school readiness may be enhanced. Access and participation rates in ECE are lower in LMICs than in high-income countries (HICs), ranging from an average of 17.9 per cent of 3- and 4-year-olds enrolled in ECE programmes in SSA to 61.7 per cent in Latin America and the Caribbean (McCoy *et al.* 2018). Despite clear evidence that more children are participating in ECE, research on the quality of these programmes and their effects on children's development is less established, though one study suggests that enrolment in poor-quality programmes can be detrimental to children's development (Berlinski *et al.* 2009).

The vast majority of experimental studies on ECE impacts and the role of ECE quality have been conducted in the United States. However, there are a small and increasing number of studies in LMICs, mostly focused on short-run impacts, typically within a year of programme initiation. Araujo *et al.* (2016) randomly assigned Ecuadorian children to kindergarten teachers across 204 schools. A one-standard-deviation increase in classroom quality (total CLASS scores) predicted increases in children's language, maths, and EF of 0.11, 0.11, and 0.07 standard deviations over one school year, respectively. In Bangladesh, children exposed to a high-quality preschool programme outperformed a control group in verbal and non-verbal reasoning, as well as school readiness, by the end of that school year (Aboud 2006). Finally, an evaluation is ongoing of the Tayari programme in Kenya, which implemented curriculum-aligned instructional materials and teacher training and support in pre-primary schools. Preliminary results show the programme had short-term impacts on children's global school readiness skills, but negative impacts on literacy and numeracy skills the following school year when children were in primary school (Nderu *et al.* 2019).

Very little is known about learning trajectories across the different domains of school readiness skills in LMICs. Most studies have not examined rates of growth over time in the acquisition of skills, particularly in the context of intervention research. In this study, we were interested in identifying whether exposure to higher

quality pre-primary education changed developmental levels or rates of change over time in school readiness skills across two school years.

1.3 The Quality Preschool for Ghana interventions

In 2004, the Government of Ghana adopted the National Early Childhood Care and Development Policy. Among other components, this policy highlighted access to quality pre-primary education as a central platform for improving early childhood development and school readiness, as well as for reducing inequalities in educational outcomes. In 2007, the government added two years of pre-primary education to the universal basic education system, called kindergarten 1 (KG1; for 4-year-olds) and kindergarten 2 (KG2; for 5-year-olds). Ghana now has one of the highest pre-primary enrolment rates on the continent at 75 per cent net enrolment in 2015–2016 (Ghana Ministry of Education 2016). Despite success in increasing access to pre-primary school, a 2012 government Kindergarten Situational Report concluded that the quality of the KG sector was poor and that teachers had not been properly trained on the curriculum established in 2004. The report concluded that teacher training was a top education policy priority. A secondary priority was to engage parents in their child's KG education at home and in school as a platform to increase parent engagement in education more generally. It is in this context that the Quality Preschool for Ghana (QP4G) project took place.

1.3.1 *The programmes*

The goal of QP4G was to develop and rigorously evaluate a scalable model of transformational teacher training to provide high-quality ECE services to children and to test the benefits of engaging parents via an awareness campaign designed to align parental expectations with these practices. The primary component was a *teacher training and coaching* programme designed to improve classroom quality and children's school readiness skills. The main training was five days at the start of the school year, followed by two refresher trainings implemented at the start of the second and third terms. The trainings were implemented by professional teacher trainers at the National Nursery Teacher Training Centre in Accra, a teacher-training facility affiliated with the Ministry of Education that provides ECE certification courses for teachers. The content focused on integrating play- and activity-based, child-centred teaching practices into teaching instructional content, positive classroom management, and assessment and planning. Teachers also received coaching visits two times per term from the district government ECE coordinator.

The *parental-awareness meetings* consisted of three meetings administered through school parent–teacher associations (PTAs) over the course of the school year. They

were open to all parents with KG children in the school and administered by the same trained district government ECE coordinators. Each meeting consisted of a video (the content was developed for the intervention) followed by a discussion led by the district coordinator. The video themes were (1) the importance of play-based learning, (2) parents' role in child learning, and (3) encouraging parent–teacher and parent–school communication. The aim was to increase parental involvement with their children's education at home and in school and increase parent–teacher communication. The interventions are described in more detail in Wolf (2019a).

Schools were randomly assigned to either receive the teacher training and coaching programme (TT condition), TT plus the parental awareness meetings (TTPA condition), or a control group.

1.3.2 Findings to date

Two previous studies have reported the results on point-in-time estimates of the programme impacts during the intervention year and one year later. These studies showed that during the intervention year, both TT and TTPA statistically significantly ($p < 0.05$) improved classroom quality, increasing the number of activities and positive behaviour management in the QP4G classrooms (effect size (e.s.) = 0.54 and 0.60, respectively), improving classroom emotional support and behaviour management (e.s. = 0.62 and 0.64, respectively), and improving support for student expression in the TT treatment alone (e.s. = 0.48).

Regarding child outcomes, the TT condition improved children's overall school readiness skills (e.s. = 0.13). When analysed by individual domains, statistically significant improvements were observed in literacy (e.s. = 0.11), numeracy (e.s. = 0.011), and SE skills (e.s. = 0.18) during the treatment year (Wolf *et al.* 2019a). One year later, there were persistent impacts on SE skills alone (e.s. = .13), with marginally statistically significant impacts on EF (e.s. = 0.11, $p < 0.10$ (Wolf *et al.* 2019a)).

When implemented with the parental-awareness meetings, the TTPA condition showed no improvements on any school readiness skills, suggesting that adding the parental-awareness component counteracted the positive gains from the TT condition implemented alone. Subgroup analyses revealed that one year later, the counteracting negative impacts were restricted to children in households with a non-literate male head (Wolf *et al.* 2019b), suggesting that parents who had less education were more likely to disagree with the messages of the training and push back in counterproductive ways.

1.2 The current study

The current study extends the previous analyses of the QP4G programmes by examining treatment impacts on *learning trajectories* over the two years of previously

reported findings. By focusing on key academic and non-academic skill development during and after exposure to higher quality ECE, we extend the literature on how pre-primary education impacts child development and school readiness in SSA. In addition, we examine whether impacts on trajectories vary by two child characteristics: grade level (a proxy for age and stage of schooling) and sex (boys versus girls). The two-year period covers different stages of schooling for younger children (in KG1 at programme initiation) and older children (in KG2 at programme initiation). Children in KG1 at programme initiation continued in pre-primary education during the second year of the study (now in KG2), while the older children in KG2 at programme initiation transition to the first year of primary school during the second year of the study. The findings lay the groundwork for future longitudinal impact evaluations of educational programmes to consider rate of learning/growth as an additional way to examine ECE programme impacts and longer term persistence.

2. METHOD

2.1 Participants and protocol

The research design was a cluster randomised trial, where schools were randomly assigned to one of three treatment arms noted above: (a) TT: 82 schools, (b) TTPA: 79 schools, and (c) control group: 79 schools. The implementation and first-year evaluation of the QP4G intervention occurred between September 2015 and June 2016. All data presented in the initial study were collected in September–October 2015 (baseline), May–June 2016 (follow-up 1), and May–June 2017 (follow-up 2). The school year in Ghana begins in September and ends in July.

Six of the sixteen districts in the Greater Accra region were selected for the study. These districts were rated as the most disadvantaged districts in the 2014 UNICEF District League Table (a social accountability index that ranks regions and districts based on development and delivery of key basic services, including education, health, sanitation, and governance) (UNICEF 2015). Randomisation was stratified by district and sector (private and public) to TT condition, TTPA condition, or control.

The trial was registered in the American Economic Association registry for randomised controlled trials (RCT ID: AEARCTR-0000704). However, examining impacts on trajectories of growth was not specified in the pre-analysis plan. Thus, we consider this an exploratory study.

2.2 Sampling and data collection procedures

2.2.1 School sample

Schools were identified using the Ghana Education Service Educational Management Information System (GES-EMIS) database. Eligible schools had to be registered with the government and have at least one KG class. Schools were then randomly sampled, stratified by district, and within district by public and private schools. Every public school was sampled because there were fewer than 120 public schools across the six districts. Private schools (490 total) were sampled within districts in proportion to the total number of private schools in each district relative to the total for all districts. All KG teachers in the schools were invited to participate in the training. Schools had one to five KG teachers, with most schools having two KG teachers. Thirty-six schools only had one KG teacher, and in this case the one teacher was sampled. If there were more than two KG teachers in the school, two teachers were randomly sampled per school for the evaluation (one from KG1 and one from KG2). The final sample included 444 classrooms in 240 schools.

2.2.2 Child sample

Class rosters for KG classrooms were collected. A target of fifteen children (eight from KG1 and seven from KG2) were randomly selected from each roster to participate in direct assessments. If a school had fewer than fifteen children enrolled across both classrooms, all children were selected. Assessors also randomly selected up to ten additional children on the initial visit (a 'reserve' list). If a selected child from the first fifteen was not in school on the day of the evaluation, assessors returned up to two times to assess the child. If the child was still not present on the third visit, a child from the reserve list replaced that child. For schools with only one KG classroom, fifteen children were randomly sampled from the classroom. At baseline, the total sample of children was 3,435 children, with an average of 14.3 children per school (range = 4–15).

Table 1 presents descriptive statistics of the schools and children in the sample by treatment group status, and a sample flow chart is presented in Figure 1.

2.2.3 Data collection procedures

Children's school readiness skills were assessed directly in their schools following verbal consent. QP4G assessors worked with head teachers to designate a few quiet, private spaces on the school grounds to conduct the assessments. These spaces were out of sight of other children.

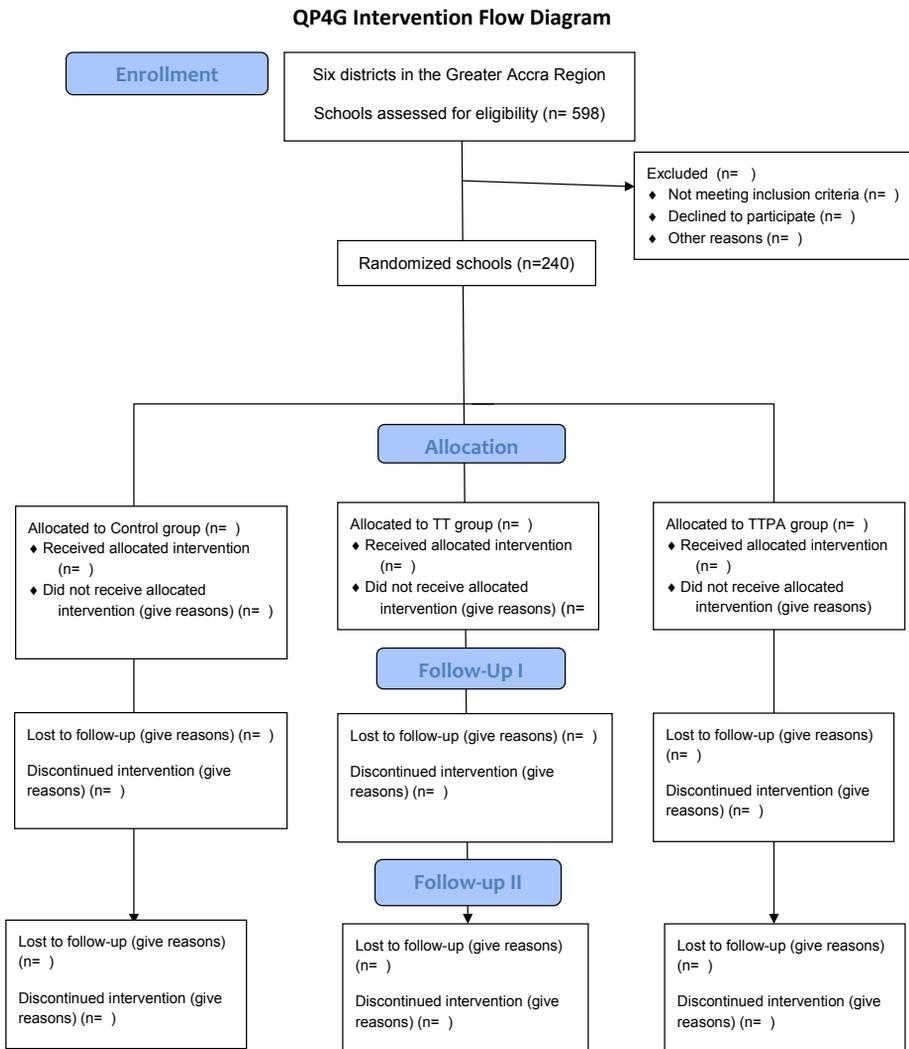


Figure 1. Sample flow chart.

2.2.4 Assessment development and adaptation

Extensive work was done to ensure that all measures were contextually appropriate. The child assessment tool was translated into three local languages (Twi, Ewe, and Ga). Surveys were translated and then back-translated by different persons to check for accuracy. Any discrepancies were discussed and addressed. QP4G assessors spent several minutes chatting and playing games with children to make them comfortable before beginning the assessment. As schools in this sample reported using a mixture of English and local language for instruction, part of this initial introduction was

Table 1. School and child characteristics, by treatment status.

	Control	TT	TTPA	<i>F</i> -statistic	<i>p</i> -value
Baseline school characteristics	mean or %				
Private school status	55.7%	56.1%	53.2%	0.08	0.923
Number of years school has been established	23	23	19	0.95	0.389
School has written rules/regulations for staff	38.5%	48.8%	35.9%	1.52	0.222
Total number of KG children in school	54	63	60	0.64	0.529
Total number of KG teachers on the payroll	2	2.3	2.2	0.98	0.376
Main language of instruction in KG1					
English only	10.5%	13.5%	7.5%	0.68	0.509
Mother tongue only	4.5%	1.4%	1.5%	0.90	0.407
Mixture of English and mother tongue	85.1%	85.1%	91.0%	0.70	0.496
Baseline sample size (total = 240)	79	82	79		
Child characteristics					
Female	50.0%	48.5%	49.0%	0.27	0.764
Age (baseline)	5.25	5.17	5.25	1.02	0.361
KG1 (vs. KG2)	53.5%	52.1%	52.6%	0.24	0.789
Early literacy (mean % correct)					
Time 1	43.9%	45.0%	45.8%	1.97	0.140
Time 2	60.8%	63.1%	61.7%	3.44	0.032
Time 3	70.0%	71.8%	70.4%	2.54	0.079
Early numeracy (mean % correct)					
Time 1	44.1%	45.4%	46.1%	2.34	0.097
Time 2	56.6%	58.8%	57.9%	3.27	0.038
Time 3	66.6%	67.2%	66.2%	1.00	0.368
Social-emotional (mean % correct)					
Time 1	41.4%	42.1%	43.2%	2.04	0.130
Time 2	44.9%	48.4%	48.0%	9.39	0.000
Time 3	57.7%	59.8%	58.4%	3.73	0.024
Executive function (mean % correct)					
Time 1	56.5%	55.9%	54.8%	1.02	0.361
Time 2	57.9%	59.7%	59.2%	2.57	0.077
Time 3	63.7%	64.4%	63.2%	1.36	0.256
Baseline sample size (total = 3,435)	1,088	1,180	1,167		

Notes. Baseline / Time 1 was collected in September–October 2015; Time 2 in May–June 2016; Time 3 in May–June 2017.

intended to help the assessor to gauge children's linguistic preferences. Assessors then administered the assessment in the language he/she deemed most appropriate for the child. At baseline, this included: Twi/Fanti only (39.0 per cent), Ewe only (1.3 per cent), Ga only (5.0 per cent), English only (37.9 per cent), and mixed English and local language (16.9 per cent).

2.3 Measures

2.3.1 Child school readiness skills

Four domains of child outcomes were directly assessed using the International Development and Early Learning Assessment (IDELA) (Pisani *et al.* 2018): early literacy, early numeracy, SE, and EF skills. Recent studies have assessed the psychometric properties and factor structure of the IDELA (Wolf *et al.* 2017), as well as partial measurement invariance across five countries (Halpin *et al.* 2019). Pisani *et al.* (2018) provide an overview of the development of the IDELA items.

Early numeracy included thirty-nine items grouped into eight constructs: number knowledge, basic addition and subtraction, one-to-one correspondence, shape identification, sorting abilities based on colour and shape, size and length differentiation, and completion of a simple puzzle ($\alpha = 0.72$ at baseline and follow-up 2). For example, the assessor showed the child a picture with six shapes and asked the child to identify a circle.

Early literacy included thirty-eight items grouped into six constructs: print awareness, letter knowledge, phonological awareness, oral comprehension, emergent writing, and expressive vocabulary ($\alpha = 0.74, 0.72,$ and 0.88 at the three waves, respectively). For example, the child was asked to identify words that begin with the same sound (for example, ‘Here is my friend mouse. Mouse starts with /m/. What other word starts with /m/? Cow, doll, milk?’) in order to evaluate phonological awareness.

Executive function was evaluated using ten items grouped into working memory (that is, forward-digit span) and impulse control (that is, head-toes task, adapted from McClelland *et al.* (2014) as described in Pisani *et al.* (2018)). For the forward-digit span, the assessor read aloud five-digit sequences (beginning with two digits and increasing up to six digits). The child was then asked to repeat the digit span. For the head-toes task, the assessor asked the child to touch his/her toes when the assessor touched his/her head, and vice versa, in a series of five items. (Because there are only two subtasks, rather than present internal consistency we present the correlation between the two subtasks; $r = 0.21, 0.25,$ and 0.22 at the three waves, respectively.)

Social-emotional skills included fourteen items grouped into five constructs: self-awareness, emotion identification, perspective taking and empathy, friendship, and conflict and problem solving ($\alpha = 0.69, 0.69,$ and 0.67 at the three waves, respectively). For example, the child was asked to imagine a scenario where they are playing with a toy and another child wants to play with the same toy. The child was then asked what he/she would do to resolve that conflict. ‘Correct’ answers in the Ghanaian context (as agreed upon by the assessors during training) included talking to the child, taking turns, sharing, and getting another toy.

2.4 Analytic plan

Baseline equivalency across school, teacher, and child characteristics was established and is described in detail in Wolf *et al.* (2019a). The results confirm that randomisation successfully yielded three groups equivalent on observed characteristics.

2.4.1 *Missing data imputation*

We used multiple imputation (with Stata's 'ice' command) to address missing data on all missing variables, including dependent variables, using three rounds of data collection (baseline and follow-up, as well as a second round of follow-up data). While the data are not missing completely at random (MCAR), if variables that strongly predict attrition are incorporated into the missing data strategy, the plausibility of a missing at random (MAR) assumption increases (Young & Johnson 2015). In other words, including a large set of covariates in estimating multiple chains of models, including those that predict differential attrition, the assumptions of MAR have been shown to be robust. Our imputation approach meets the standards of the What Works Clearinghouse Version 4.0 Standards Handbook (IES 2017).

We conducted the imputation in two steps. First, using a rich set of teacher demographic and background variables, outcome scores for professional well-being and classroom quality across all waves, and treatment status indicators, we imputed twenty teacher-level data sets. Second, we randomly selected ten of these teacher data sets. We merged each individual data set with the children outcomes data and basic children demographic characteristics from all three waves of data. For each of the ten teacher data sets, we imputed ten child data sets, resulting in 100 child-level data sets.

2.4.2 *Growth curve models*

A series of linear growth curve models was estimated to examine the relationships between the treatment status and child outcomes over time, along with the set of covariates identified above. This multilevel approach was deemed most appropriate given the nested nature of the data, with multiple observations/time (L1) nested within children (L2), who were nested within classrooms (L3), which were nested within schools (L4). We modelled only linear growth because this was the most reliable approach with three time points of data, as opposed to quadratic or spline patterns of growth that require at least four time points to reliably estimate (Singer & Willett 2003).

Growth curves are characterised by a fixed part that contains average effects for the intercept and slope (rate of change over time), and a random part that contains individual differences (variance) in the intercept, slope, and the within-person residual. To examine the progression of students' outcomes across the intervention, growth

curve models were run that assessed the intercept at the third time point (T3), as well as change across time points. Therefore, positive effects on the intercept reflect higher levels of student outcomes at T3, while negative ones reflect lower levels at T3. Those covariates with positive effects on the slope terms are associated with steeper increases in student outcomes over time. Those covariates with negative effects on the slopes are associated with more gradual increases or decreases over time.

To examine intervention impacts on growth, we include a cross-lagged interaction term between a school-level dummy variable indicating whether schools were randomly assigned at baseline to TT or TTPA (L4; reference is the control group) and time (L1). We ran separate models for each of the four domain-specific skills. All of these models included the treatment status dummies and all of the covariates, with the intercept at T3. The coefficients in these models represents average values for each outcome across the sample. Since the effect of the treatment on students' outcomes at T3 have already been previously reported (Wolf *et al.* 2019b), we focused on interpreting the effect of the treatment on the rate of growth in children's skills over time.

Finally, we ran each of the models stratified by KG level at programme initiation (KG1 and KG2) and by sex of the child (boys and girls). First, we ran a series of three-way interactions (that is, KG level, treatment status, and time) and used post-estimation Wald tests to assess whether there were significant differences between the coefficients in the interactions (tables of these Wald tests are shown in Table A1 and Table A2 in the Appendix). We then ran the models separately for each subgroup.

3. RESULTS

3.1 Impacts on growth of academic skills

The first two columns in Table 2 display the estimates for the two academic outcomes, literacy and numeracy. The third and fourth rows display the impact estimates of QP4G at T3 (intercept), and the fifth and sixth rows display impact estimates on rate of change over time (slope), the second of which is our main parameter of interest. Similar to our previously reported impacts in year 2 (Wolf *et al.* 2019a), there were no statistically significant impacts on either academic outcome at T3. An examination of the impacts on rate of growth, however, revealed that there were small negative impacts of the TTPA condition on the rate of change in children's early numeracy skills ($b = -0.009$, $SE = 0.003$, $p = 0.010$), and marginally statistically significant negative impacts of the TTPA condition on literacy ($b = -0.007$, $SE = 0.004$, $p = 0.069$). There were no impacts of the TT condition on rate of change for either outcome. The first row in Figure 2 shows the predicted trajectories of students' literacy and numeracy scores over the three time points by treatment status.

Table 2. QP4G treatment status and children's school readiness skills over time ($N = 3,435$).

	Literacy		Numeracy		Executive function		Social-emotional	
	estimate	(SE)	estimate	(SE)	estimate	(SE)	estimate	(SE)
<i>Fixed effects</i>								
Intercept at T3	0.557	(0.018)	***	(0.016)	***	(0.013)	***	(0.014)
Time (slope)	0.124	(0.003)	***	(0.003)	***	(0.033)	***	(0.003)
Treatment								
TT	0.023	(0.017)		(0.015)		(0.012)		(0.013) +
TTPA	0.000	(0.016)		(0.015)		(0.012)		(0.013)
Treatment × time								
TT × time	0.004	(0.004)		(0.003)		(0.005) +		(0.005)
TTPA × time	-0.007	(0.004) +		(0.003)	*	(0.005)		(0.005)
<i>Random-effects parameters</i>								
School-level intercept (SD)	0.070	(0.005)	***	(0.005)	***	(0.005)	***	(0.005)
Classroom-level intercept (SD)	0.042	(0.005)	***	(0.005)	***	(0.005)	***	(0.005)
Child-level intercept (SD)	0.097	(0.002)	***	(0.002)	***	(0.003)	***	(0.003)
Child-level slope (SD)	0.042	(0.002)	***	(0.002)	***	(0.002)	***	(0.004)

Notes. Estimates are computed using observed scores, in four-level models: time (L1) nested in children (L2), children nested in classrooms (L3), nested in schools (L4). Effect sizes calculated accounting for the multi-level model structure (Hedges 2009).

*** $p < 0.001$. * $p < 0.05$. + $p < 0.10$.

TT = Teacher training condition; TTPA = teacher training plus parent awareness training condition.

All impact estimates computed from 100 multiply imputed data sets.

Models include the following control variables: private (vs. public) sector status of the school, six district dummies, a dummy variable for if the school was assigned to receive teacher text messages, a dummy for if the school was assigned to receive parent flyers, a series of five dummy variables accounting for within-sample mobility, child gender, age, KG level (1, 2, or 3 if KG1 and KG2 were combined in one classroom, as a categorical variable), and baseline score for each respective outcome.

3.2 Impacts on growth of non-academic skills

The second two columns in Table 2 display the estimates for EF and social emotional outcomes. The third and fourth rows display the impact estimates of QP4G at T3 (intercept), and the fifth and sixth rows display impact estimates on rate of change over time (slope), the second of which is our main parameter of interest. Similar to our previously reported impacts in year 2 (Wolf *et al.* 2019a), there were marginally statistically significant impacts of TT on SE skills at T3 ($b = 0.026$, $SE = 0.013$, $p = 0.052$). An examination of the impacts on rate of growth revealed that there were small, marginally significant positive impacts of the TT condition on the rate of change in children’s EF skills ($b = 0.008$, $SE = 0.005$, $p = 0.098$). The second row in Figure 2 shows the predicted trajectories of students’ EF and SE scores over the three time points by treatment status.

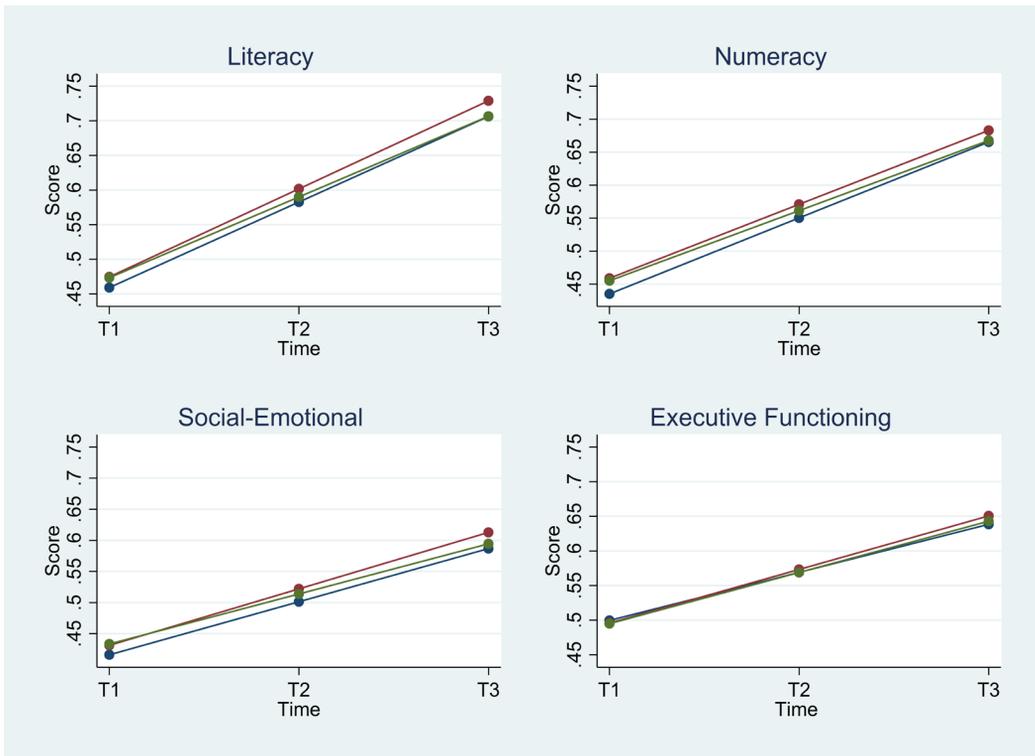


Figure 2. Trajectories of children’s school readiness skills by treatment condition, by domain.

3.3 Variation by KG level

Post-estimation Wald tests (both $p < 0.001$) revealed statistically significant differences in the effects of the TT and TTPA conditions on the rate of change in children's literacy skills between students in KG1 and KG2 at programme initiation (see Appendix Table A1). Wald tests showed statistically significant differences (all $p < 0.05$) between KG1 and KG2 students at programme initiation in the effect of the treatments on children's numeracy, EF, and SE skills. However, the effect of being in the control group between KG1 and KG2 at programme initiation was marginally significant for SE skills ($p = 0.051$).

The first panel of Table 3 displays the results for children in KG1 during the intervention year, and the second panel for children who were in KG2 during the intervention year. The subgroup analyses reveal that for academic skills, there were marginally statistically significant positive impacts of the TT condition on KG1 students' literacy skills over time ($b = 0.011$, $SE = 0.006$, $p = 0.057$), and negative for the TTPA condition ($b = -0.003$, $SE = 0.006$, $p = 0.069$ for TTPA condition). The negative impacts on numeracy were restricted to children in KG2, where there were marginally statistically significant negative effects of the TTPA condition on growth in numeracy scores ($b = -0.009$, $SE = 0.005$, $p = 0.076$). For KG1, these effects were small ($b = -0.002$) and non-significant.

For non-academic skills, the TT condition had a positive impact on KG1 students' SE skills at T3 ($b = 0.034$, $SE = 0.018$, $p = 0.052$), as well as significantly steeper increases in these skills over time ($b = 0.016$, $SE = 0.017$, $p = 0.018$). The TTPA condition only impacted KG1 students' SE skills at T3 ($b = 0.034$, $SE = 0.017$, $p = 0.047$). For KG2 students, there was only a marginally significant impact of TT on SE skills at T3 ($b = 0.027$, $SE = 0.016$, $p = 0.078$) and no significant impacts on students' change in non-academic skills over time. There were no differences for EF across the two subgroups.

3.4 Variation by sex of the child

Wald tests revealed statistically significant differences in the effect of TT on numeracy for boys compared to girls ($p = 0.011$) and between girls and boys in the control group for SE skills ($p = 0.021$). See Appendix Table A2.

The first panel of Table 4 displays the results for boys and the second panel displays the results for girls. With regard to academic skills, there were marginally significant negative impacts of the TTPA condition on both boys' literacy ($b = -0.010$, $SE = 0.005$, $p = 0.067$) and girls' literacy ($b = -0.004$, $SE = 0.005$, $p = 0.069$). A post-estimation Wald test from the preliminary three-way interaction model revealed that there was

Table 3. QP4G treatment status and children's school readiness skills over time, by grade level.

	Literacy		Numeracy		Executive function		Social-emotional					
	estimate	(SE)	estimate	(SE)	estimate	(SE)	estimate	(SE)				
Kindergarten 1 (N = 1,580)												
<i>Fixed effects</i>												
Intercept at T3	0.589	(0.022)	***	0.585	(0.020)	***	0.616	(0.017)	***	0.523	(0.019)	***
Time	0.137	(0.004)	***	0.129	(0.004)	***	0.082	(0.005)	***	0.086	(0.005)	***
Treatment												
TT	0.025	(0.020)		-0.001	(0.018)		0.004	(0.016)		0.034	(0.018)	+
TTPA	0.015	(0.020)		0.013	(0.018)		0.010	(0.016)		0.034	(0.017)	*
Treatment × time												
TT × time	0.011	(0.006)	+	0.000	(0.005)		0.009	(0.007)		0.016	(0.007)	*
TTPA × time	-0.003	(0.006)	+	-0.002	(0.005)		0.004	(0.007)		0.007	(0.007)	
<i>Random-effects parameters</i>												
School-level intercept (SD)	0.068	(0.026)	*	0.043	(0.068)		0.049	(0.005)	***	0.599	(0.005)	***
Classroom-level intercept (SD)	0.040	(0.043)		0.055	(0.046)		0.000			0.000		
Child-level intercept (SD)	0.099	(0.003)	***	0.105	(0.003)	***	0.090	(0.005)	***	0.098	(0.004)	***
Child-level slope (SD)	0.034	(0.004)	***	0.022	(0.004)	***	0.051	(0.004)	***	0.015	(0.017)	
Kindergarten 2 (N = 1,490)												
<i>Fixed effects</i>												
Intercept at T3	0.697	(0.018)	***	0.688	(0.017)	***	0.664	(0.013)	***	0.617	(0.016)	***
Time (slope)	0.106	(0.004)	***	0.095	(0.003)	***	0.054	(0.005)	***	0.078	(0.005)	***
Treatment												
TT	0.017	(0.018)		0.031	(0.017)	+	0.019	(0.014)		0.027	(0.015)	+
TTPA	-0.013	(0.018)		-0.013	(0.017)		0.006	(0.014)		-0.000	(0.015)	
Treatment × time												
TT × time	-0.003	(0.006)		-0.002	(0.005)		0.004	(0.007)		-0.002	(0.007)	
TTPA × time	-0.001	(0.006)		-0.009	(0.005)	+	0.010	(0.007)		-0.007	(0.007)	

Table 3. *Continued.*

	Literacy		Numeracy		Executive function		Social-emotional	
	estimate	(SE)	estimate	(SE)	estimate	(SE)	estimate	(SE)
Kindergarten 1 (N = 1,580)								
Random-effects parameters								
School-level intercept (SD)	0.015	–	0.015	–	0.002	–	0.045	(0.005) ***
Classroom-level intercept (SD)	0.067	(0.009) ***	0.060	(0.008) ***	0.039	(0.009) ***	NA	NA
Child-level intercept (SD)	0.087	(0.003) ***	0.093	(0.003) ***	0.065	(0.004) ***	0.084	(0.004) ***
Child-level slope (SD)	0.045	(0.003) ***	0.039	(0.003) ***	0.050	(0.003) ***	0.037	(0.004) ***

Notes: Estimates are computed using observed scores, in four-level models: time (L1) nested in children (L2), children nested in classrooms (L3), nested in schools (L4). Effect sizes calculated accounting for the multi-level model structure (Hedges 2009).

*** $p < 0.001$. * $p < 0.05$. + $p < 0.10$.

TT = Teacher training condition; TTPA = teacher training plus parent awareness training condition.

All impact estimates computed from 100 multiply imputed data sets.

Models include the following control variables: private (vs. public) sector status of the school, six district dummies, a dummy variable for if the school was assigned to receive teacher text messages, a dummy for if the school was assigned to receive parent flyers, a series of five dummy variables accounting for within-sample mobility, child gender, age, and baseline score for each respective outcome.

Some school-level random effects parameters were not able to be estimated, and are denoted by ‘–’ in the table.

Due to model lack of convergence, the social-emotional outcome was estimated using a three-level model where multiple observations/time (L1) were nested within children (L2), who were nested within schools (L3). Therefore, there is no random-effect parameter estimate for the classroom-level (‘NA’).

Table 4. Exposure to QP4G and children's school readiness skills over time by sex of child.

	Literacy		Numeracy		Executive function		Social-emotional	
	estimate	(SE)	estimate	(SE)	estimate	(SE)	estimate	(SE)
Boys (N = 1,754)								
<i>Fixed effects</i>								
Intercept at T3	0.532	(0.019)	0.549	(0.018)	0.570	(0.015)	0.502	(0.015)
Time	0.125	(0.004)	0.115	(0.004)	0.067	(0.005)	0.081	(0.005)
Treatment								
TT	0.014	(0.018)	0.016	(0.017)	0.012	(0.014)	0.011	(0.015)
TTPA	-0.016	(0.018)	-0.006	(0.017)	0.001	(0.014)	0.003	(0.015)
Treatment × time								
TT × time	0.002	(0.005)	0.002	(0.005)	0.013	(0.007)	0.005	(0.006)
TTPA × time	-0.010	(0.005)	-0.010	(0.005)	0.005	(0.007)	0.001	(0.006)
<i>Random-effects parameters</i>								
School-level intercept (SD)	0.063	(0.007)	0.056	(0.007)	0.035	(0.008)	0.039	(0.008)
Classroom-level intercept (SD)	0.057	(0.007)	0.048	(0.007)	0.039	(0.008)	0.042	(0.008)
Child-level intercept (SD)	0.097	(0.003)	0.103	(0.003)	0.084	(0.004)	0.093	(0.004)
Child-level slope (SD)	0.043	(0.003)	0.035	(0.003)	0.050	(0.003)	0.033	(0.005)
Girls (N = 1,681)								
<i>Fixed effects</i>								
Intercept at T3	0.567	(0.020)	0.562	(0.018)	0.602	(0.014)	0.528	(0.016)
Time (slope)	0.122	(0.004)	0.115	(0.004)	0.072	(0.005)	0.090	(0.005)
Treatment								
TT	0.025	(0.019)	0.013	(0.017)	0.011	(0.014)	0.039	(0.016)
TTPA	0.013	(0.019)	0.002	(0.017)	0.009	(0.014)	0.015	(0.016)
Treatment × time								
TT × time	0.006	(0.005)	-0.009	(0.005)	0.003	(0.007)	0.006	(0.006)
TTPA × time	-0.004	(0.005)	-0.008	(0.005)	0.004	(0.007)	-0.011	(0.006)

+

Table 4. Continued.

	Literacy		Numeracy		Executive function		Social-emotional					
Boys (N = 1,754)	estimate	(SE)	estimate	(SE)	estimate	(SE)	estimate	(SE)				
<i>Random-effects parameters</i>												
School-level intercept (SD)	0.076	(0.006)	***	0.064	(0.006)	***	0.031	(0.010)	***	0.044	(0.007)	***
Classroom-level intercept (SD)	0.031	(0.009)	***	0.030	(0.010)	***	0.038	(0.008)	***	0.039	(0.009)	***
Child-level intercept (SD)	0.091	(0.003)	***	0.097	(0.003)	***	0.073	(0.004)	***	0.089	(0.004)	***
Child-level slope (SD)	0.042	(0.003)	***	0.037	(0.003)	***	0.052	(0.003)	***	0.068	(0.006)	***

Notes: Estimates are computed using observed scores, in four-level models: time (L1) nested in children (L2), children nested in classrooms (L3), nested in schools (L4). Effect sizes calculated accounting for the multi-level model structure (Hedges 2009).

*** $p < 0.001$. * $p < 0.05$. + $p < 0.10$.

TT = Teacher training condition; TTPA = teacher training plus parent awareness training condition.

All impact estimates computed from 100 multiply imputed data sets.

Models include the following control variables: private (vs. public) sector status of the school, six district dummies, a dummy variable for if the school was assigned to receive teacher text messages, a dummy for if the school was assigned to receive parent flyers, a series of five dummy variables accounting for within-sample mobility, age, KG level (1, 2, or 3 if KG1 and KG2 were combined in one classroom, as a categorical variable), and baseline score for each respective outcome.

not a significant difference between the effect of TTPA on literacy skills for boys and girls ($p = 0.537$). Furthermore, there was a significant negative impact of the TTPA condition on the rate of change in boys' early numeracy skills ($b = -0.010$, $SE = 0.005$, $p = 0.037$), while the TT condition had a marginally significant negative impact girls' numeracy skills ($b = -0.009$, $SE = 0.005$, $p = 0.078$).

For the non-academic skills, there was a marginally significant, positive impact of the TT condition on the rate of change in boys' EF skills over time ($b = 0.013$, $SE = 0.007$, $p = 0.054$), but not for girls ($b = 0.003$, $p = \text{n.s.}$). Finally, the TT condition had a significant, positive impact on girls' social emotional development at T3 ($b = 0.039$, $SE = 0.016$, $p = 0.013$), but a marginally significant negative impact on rate of growth for girls' SE skills ($b = -0.011$, $SE = 0.006$, $p = 0.082$).

4. DISCUSSION

This article has presented two-year longitudinal experimental impacts on children's school readiness skills of a teacher training and coaching programme, implemented with and without parental-awareness meetings, in pre-primary schools in Ghana. Consistent with the QP4G programme theory of change and a holistic perspective on early childhood education and development, we focused on outcomes in multiple domains, addressing key academic and non-academic skills necessary for school readiness (for example, Blair & Razza 2007). In addition, we analysed the data in a manner consistent with the randomised, experimental design of the evaluation and with the developmental nature of the longitudinal data, estimating school-level intervention effects on children's developmental growth parameters across three repeated time points.

The article was designed to address a number of limitations in current research on exposure to early childhood education in LMICs. To our knowledge, it is the first evaluation of ECE impacts on trajectories of learning in SSA. The results reveal a complementary but new set of findings to two previous papers published on the study examining impacts at one point-in-time (Wolf *et al.* 2019a, 2019b).

4.1 Impacts of teacher training and coaching on rate of school readiness skills growth

The teacher training implemented by itself did not have an impact on the rate of growth of children's academic skills or SE skills. There were marginally significant positive impacts on growth in EF from TT ($p < 0.10$). This is contrast to previous analyses examining impacts at the end of implementation year (Wolf *et al.* 2019a) and

one year later (Wolf *et al.* 2019b), which showed improvements in literacy, numeracy, and SE skills during the implementation year, and sustained impacts on SE skills one year later.

The results suggest that, while the QP4G teacher training improved academic outcomes (both literacy and numeracy) during the intervention year (Wolf *et al.* 2019a), these changes were not sufficiently large to ultimately change children's academic trajectories over the two years, suggesting that children did not sustain or build on the previous gains in the following school year 2. As most children in the sample had a new teacher in the second year, these are important findings that suggest aligning children's subsequent schooling with quality improvements in ECE may be necessary to sustain gains on academic skills. Research from the United States has found that in the school year following preschool, children's subsequent classrooms often repeat the same academic content that children learned in the previous year. As a result, children who did not attend preschool 'catch up', and any gains on academic skills from the previous year converge (Weiland 2018). If that is the case in this context, the results suggest that training teachers to track individual children and build on their existing skills to support individualised learning may be key to sustaining gains on academic outcomes from improved ECE quality. Finally, the new results provide suggestive evidence that improving activity-based instruction and positive behaviour management in ECE can improve children's trajectories of EF skills. EF and self-regulatory behaviours are increasingly seen as central for children's successful adaptation to school, as such skills have been linked to children's growth in academic achievement (for example, Bull & Lee 2014, Jacob & Parkinson 2015) and even pro-social skills (Wolf & McCoy 2019). EF is susceptible to both the negative impact of early adversity and positive inputs, because the brain regions that support these skills have a prolonged developmental trajectory (Shonkoff & Phillips 2000, Zelazo & Carlson 2012). Understanding whether the changes from QP4G in children's EF trajectories lead to longer term impacts on children's schooling outcomes is an area of future research that we hope to pursue.

4.2 Counteracting impacts of parental-awareness meetings

Contrary to our prediction, when the same programme was implemented alongside three parental-awareness meetings, administered through school PTAs by local government district coordinators and designed to increase communication between parents and teachers, we found impacts on *reduced* rate of growth on children's school readiness skills. These negative impacts were restricted to academic outcomes, including marginally significant negative effects on growth in literacy ($p < 0.07$), and statistically significant negative effects on growth in numeracy skills. While

counter-intuitive, these findings are consistent with previous articles that showed the parental-awareness intervention had counteracting impacts on children's school readiness outcomes.

Analysing these findings requires a deeper discussion of the context in which the programme was implemented. Previous studies have shown that Ghanaian parents value early education and demand academically focused, rigorous instruction from teachers (Bidwell *et al.* 2014, Kabay *et al.* 2017). Interestingly, parents' school involvement has been shown to negatively predict Ghanaian children's school readiness skills (Wolf & McCoy 2017), suggesting that parents may have a vision for schooling that is in contradiction to developmental learning processes. Thus, the QP4G approach to engaging parents in KG education through parental-awareness meetings without changing their preferences and practices may have conflicted with the teacher training in counterproductive ways. Furthermore, the study took place in peri-urban and semi-rural communities in the fastest growing and most diverse region in the country. Research in human development indicates that urbanisation is a powerful force in shaping changing expectations for children's learning (Greenfield 2009), and research with parents in this region of Ghana suggests that parents view preschool as a way to prepare children for academic learning and socialisation (Kabay *et al.* 2017). The messages relayed in the QP4G programme may have been interpreted by parents as threatening their goals for their children's academic preparation and socialisation. It is possible that parents disagreed with the messages from the training and favoured traditional, teacher-directed, academically rigorous approaches (for example, Bidwell *et al.* 2014).

Finally, a follow-up qualitative study with parents and teachers from this treatment condition revealed three important insights: parents pushed back on the messages related to positive disciplinary practices; teachers communicated with parents primarily about concerns related to children; and teachers felt frustrated in trying to communicate with parents (Wolf 2019). These findings suggest that the intervention may have successfully increased parent-teacher communication—as it was designed to—but this in fact led to disagreement and frustration among both parents and teachers in ways that was ultimately harmful to children. These findings suggest a misalignment between parents' and teachers' expectations for ECE. This is consistent with a recent study in Tanzania, which found that parents consider respect and social compliance as core values that they hope schooling will instil in their children, while teachers value children's confidence and curiosity (Jukes *et al.* 2018). More research is needed to find effective ways to engage parents in their child's education in a positive way, which may be critical for sustainably changing teacher practice and children's development.

4.3 Differences by child grade and sex

Subgroup analyses by grade level at programme initiation (KG1 vs. KG2) and child sex (boys versus girls) showed that there were larger gains for KG1 children at programme initiation in the TT condition for literacy and SE skills, and larger negative effects for boys in the TTPA condition for numeracy skills. The stronger gains for KG1 children at programme initiation suggest that exposure to activity-based, developmentally appropriate instructional practices in the first year of pre-primary school can improve children's early schooling trajectories in obtaining both academic and non-academic domains. The results also suggest that, in this case, earlier intervention (4-year-olds versus 5-year-olds) is more effective in improving children's transition to school.

The larger negative effects for boys in the TTPA condition, particularly on numeracy and literacy skills, suggest that the counteracting effects of the parental-awareness meetings were restricted to academic skills. Girls in Ghana have historically experienced lower educational outcomes than boys (UNESCO 2014). Interestingly, there is gender parity in pre-primary school enrolment in Ghana, and gender parity in school enrolment declines with school progression (UNGEI 2012). Thus, it is possible that, while parents enrol boys and girls in pre-primary school at equal rates, inequities in investments in their children's education occur in other ways, with parents emphasising schooling as the basis for their children's future (Kabay *et al.* 2017) more for boys than girls.

4.4 Limitations and conclusions

This study has numerous strengths: a randomised experimental design with sufficient power to detect small effects, the use of culturally adapted measures collected by Ghanaian data collectors, longitudinal tracking of children for a year after the end of the one school-year intervention, and assessment of multiple sub-domains of children's school readiness. But there also are important limitations. First, there was significant attrition of the children in the sample (about one fifth of the baseline sample), and significant missing responses for about one third of the caregivers due to a difficulty obtaining correct phone numbers. The use of multiple imputation and multiple controls probably limits any bias due to attrition. Second, we assess trajectories over three waves, limiting our ability to examine non-linear trajectories and to examine growth over a longer time period. We modeled linear growth because this was the most reliable approach with three time points of data, as opposed to spline or quadratic patterns of growth that require at least four time points of data for reliable estimation (Singer & Willett 2003). Therefore, our data did not allow us to assess potential non-linear

change in outcomes. Third, due to time and resource constraints, we collected very little data on the implementation of the parental-awareness training and parents' engagement in and perceptions of this training. We are thus unable to understand mechanisms of change related to this treatment condition, an important limitation given the negative impacts of this treatment on children's academic skill growth.

Despite these limitations, this report of two-year impacts of an integrated ECE quality improvement intervention, focused on transforming classrooms from rote memorisation of academic concepts and a strict disciplinarian approach to one that incorporates activities, emotional support, and positive behaviour management, provides important contributions to the field of international education and global ECE. This study provides good evidence that such universal quality improvement school-based interventions, delivered to whole populations of children, can result in positive changes in children's development. At the same time, the results of the parental-awareness intervention caution the field not to assume engaging parents will always be positive, and push future interventions to take context, culture, and parental desires for their children's education and socialisation into account.

Several questions remain and there are several future directions for policy-relevant research to explore, including: What are the mechanisms of parents' roles in child development for pre-schoolers? How can parents' interests and activities be harnessed to be more complementary with improved teacher training? Are there persistent impacts on children over longer time horizons, including what some have termed 'sleeper effects' for some of the non-academic outcomes? To what extent do altered academic trajectories in these two years affect children's outcomes in primary schools. And to what extent or with what modifications are the effective aspects of teacher training in peri-urban Ghana transferable to other contexts? In our ongoing research we are attempting to answer some of these questions. With such ongoing research we hope to contribute further to knowledge about what makes ECE most effective in contexts such as in Ghana.

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APPENDIX

Table A1. Results from Wald tests comparing KG levels.

	KG Level							
	Literacy		Numeracy		Executive function		Social-emotional	
KG1vs KG2 for treatment	<i>F</i> -statistic		<i>F</i> -statistic		<i>F</i> -statistic		<i>F</i> -statistic	
KG1-TT vs KG2-TT	77.870	***	72.540	***	30.060	***	72.540	***
KG1-TTPA vs KG2-TTPA	31.680	***	72.050	***	9.890	***	72.050	***
KG1-control vs KG2-control	37.890	***	49.490	***	20.050	***	49.490	***
KG1: comparing treatment								
KG1-TT vs KG1-TTPA	8.050	***	1.110		1.200		1.110	
KG1-TT vs KG1-control	3.200	+	0.040		1.720		0.040	
KG1-TTPA vs KG1-control	0.790		0.630		0.080		0.630	
KG2: comparing treatment								
KG2-TT vs KG2-TTPA	0.250		0.840		1.530		0.840	
KG2-TT vs KG2-control	0.100		0.420		0.390		0.420	
KG2-TTPA vs KG2-control	0.020		2.340		3.300	+	2.340	

Notes. Estimates are computed using observed scores, in four-level models: time (L1) nested in children (L2), children nested in classrooms (L3), nested in schools (L4). Effect sizes calculated accounting for the multi-level model structure (Hedges 2009).

*** $p < 0.001$. * $p < 0.05$. + $p < 0.10$.

KG1 ($N = 1,580$) KG2 ($N = 1,490$)

Models include the following control variables: private (vs. public) sector status of the school, six district dummies, a dummy variable for if the school was assigned to receive teacher text messages, a dummy for if the school was assigned to receive parent flyers, a series of five dummy variables accounting for within-sample mobility, child gender, age, KG level (1, 2, or 3 if KG1 and KG2 were combined in one classroom, as a categorical variable), and baseline score for each respective outcome.

Table A2. Results from Wald tests comparing boys and girls.

	Sex of child							
	Literacy		Numeracy		Executive function		Social-emotional	
Girls vs Boys for treatment	<i>F</i> -statistic		<i>F</i> -statistic		<i>F</i> -statistic		<i>F</i> -statistic	
Girls-TT vs Boys-TT	77.870	***	72.540	***	30.060	***	72.540	***
Girls-TTPA vs Boys-TTPA	31.680	***	72.050	***	9.890	***	72.050	***
Girls-control vs Boys-control	37.890	***	49.490	***	20.050	***	49.490	***
Girls: comparing treatment								
Girls-TT vs girls -TTPA	8.050	***	1.110		1.200		1.110	
Girls-TT vs Girls-control	3.200	+	0.040		1.720		0.040	
Girls-TTPA vs Girls-control	0.790		0.630		0.080		0.630	
Boys: comparing treatment								
Boys-TT vs Boys-TTPA	0.250		0.840		1.530		0.840	
Boys-TT vs Boys-control	0.100		0.420		0.390		0.420	
Boys-TTPA vs Boys-control	0.020		2.340		3.300	+	2.340	

Notes. Estimates are computed using observed scores, in four-level models: time (L1) nested in children (L2), children nested in classrooms (L3), nested in schools (L4). Effect sizes calculated accounting for the multi-level model structure (Hedges 2009).

*** $p < 0.001$. * $p < 0.05$. + $p < 0.10$.

Boys ($N = 1,754$) Girls ($N = 1,681$)

Models include the following control variables: private (vs public) sector status of the school, six district dummies, a dummy variable for if the school was assigned to receive teacher text messages, a dummy for if the school was assigned to receive parent flyers, a series of five dummy variables accounting for within-sample mobility, child gender, age, KG level (1, 2, or 3 if KG1 and KG2 were combined in one classroom, as a categorical variable), and baseline score for each respective outcome.

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Experiences of incorporating support for early childhood development into the Baby Friendly Community Initiative in rural Kenya

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Abstract: Over 66 per cent of children in sub-Saharan Africa remain affected by poor developmental outcomes, exacerbating early inequalities. UNICEF and WHO evolved the Care for Child Development package (CCD) as a community-based initiative to support caregivers to develop stronger relationships with young children and support nurturing care. The Baby Friendly Community Initiative (BFCI) is a global WHO strategy to promote optimal maternal, infant and young child nutrition at the community level. This paper provides insights into the feasibility and lessons learned from rural Kenya in providing CCD training and supporting its implementation alongside the BFCI. Findings from qualitative interviews with caregivers and implementers of the BFCI revealed that training community health volunteers on CCD, enabled them to deliver CCD messages alongside those of the BFCI during counselling sessions. However, a more integrated approach to training as well as practical training opportunities, refresher training and provision of materials that facilitate the programme will enable further support for nurturing care in Kenya.

Keywords: Baby Friendly Community Initiative, Care for Child Development, caregiving, community initiatives, early childhood development, nurturing care, rural Kenya.

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1. INTRODUCTION

Research has shown that the period from conception up to three years after birth lays the foundation for a child's health, well-being and productivity that lasts throughout childhood, adolescence and adulthood (for example, Hepper 2015, Lagercrantz 2016, WHO *et al.* 2018). This early period in development is characterised by rapid brain development with neuronal connections being made in response to a child's interactions with physical and social environments, both in utero and postnatally (Hepper 2015, Lagercrantz 2016; WHO *et al.* 2018). Development in this earliest period of life influences the child's health, learning and productivity as well as social and emotional well-being (for example, Campbell *et al.* 2014, WHO *et al.* 2018).

1.1 The Care for Child Development package

It is estimated that 43 per cent of children under 5 years of age are at risk of failing to achieve their human potential; in sub-Saharan Africa this proportion rises to 66 per cent (Daelmans *et al.* 2016, Lucas *et al.* 2017,). The WHO and UNICEF developed the Care for Child Development package to address this risk. The Care for Child Development package provides the basis for support and training to improve sensitive and responsive caregiving and promote psychosocial development of young children as part of its integrated management of child illnesses strategy.

Responsive caregiving encourages a caregiver to be responsive and to interpret and respond appropriately to a child's behaviour, including their movements, sounds and gestures. It is also the foundation for protecting children from injury, supporting appropriate responses to illness, nurturing early learning, and building personal, social and emotional skills (Black & Aboud 2011, Lucas *et al.* 2017). The Care for Child Development package therefore aims to support caregivers to build strong relationships with their young children (Ainsworth *et al.* 1974, Lucas *et al.* 2017). Caregivers are observed interacting with their children. Counsellors then respond to the interaction that they have observed by counselling the caregiver using appropriate counselling cards from the Care for Child Development package. This helps parents and caregivers to increase the time spent with their children, thus improving the quality of interactions, with the potential to improve the child's learning and health (Lucas *et al.* 2017). Another important element of the programme is for counsellors to use the counselling to enable the caregiver to feel confident and to offer praise. The counsellor supports the caregiver to use child-directed language and to select appropriate and enjoyable activities that the caregiver and the child can do together at home to support play, communication, motor, cognitive and socio-emotional development. Play is encouraged, supported by locally relevant materials, such as tin cups, empty

plastic containers, cooking pots and spoons, so that it is low cost and readily available (Lucas *et al.* 2017). Evidence shows that caregivers involved in the kind of counselling supported by the Care for Child Development strategy gain confidence and that this encourages positive changes in parenting behaviour (Aboud & Akhter 2011). The counselling of caregivers may happen individually at home or in group settings, such as health facilities or community meetings (Aboud & Akhter 2011, Lucas *et al.* 2017).

1.2 The Baby Friendly Community Initiative

Appropriate infant and young child nutrition is critical for optimal growth and development (WHO 2000). Poor nutrition is associated with negative outcomes in the child's cognitive development, morbidity in later life and reduced overall economic productivity (Victoria *et al.* 2008). The World Health Organization (WHO) recommends exclusive breastfeeding for the first six months of a child's life, with continued breastfeeding coupled with appropriate complementary feeding for up to 2 years of age, in order to meet the infant's growth and development needs (WHO 2002).

In Kenya, poor infant and young child nutrition remains a major challenge. According to the 2014 Kenya Demographic Health Survey (KDHS), stunting levels are at 26 per cent, while severe stunting is at 12 per cent among children aged 18 to 23 months. Additionally, the KDHS indicates that only 22 per cent of children in Kenya are fed in accordance with the recommended infant and young child feeding practices (KDHS 2014). Rural Kenya records high levels of global acute malnutrition, primarily attributable to poor child-feeding practices, poor health-seeking behaviour, and poor sanitation and hygiene (UNICEF 2016).

In order to address poor infant and young child nutrition, improve health and reduce mortality, the child survival and development strategy in Kenya aims to accelerate and scale-up evidence-based, high-impact interventions (Kenya Ministry of Health 2013). The Kenyan government, through the Ministry of Health, implemented the Baby Friendly Hospital Initiative, developed by the WHO and UNICEF in 1990, in order to address the poor breastfeeding practices in maternity wards. This initiative places emphasis on implementation at the hospital level, promoting breastfeeding in hospitals worldwide. However, the impact of the Baby Friendly Hospital Initiative in less developed countries like Kenya, where more than half of women—especially the poor—deliver at home, is limited (KNBS 2009, Montagu *et al.* 2011). Therefore, following the urgent need to transfer the benefits of the Baby Friendly Hospital Initiative to the community, Kenya explored the adoption of the Baby Friendly Community Initiative in rural settings (Kimani-Murage *et al.* 2015). The Baby Friendly Community Initiative was introduced to expand on the tenth step of the Baby Friendly Hospital Initiative: to focus on supporting breastfeeding mothers

after they leave hospital. In Kenya, the Baby Friendly Community Initiative aims to protect, promote and support breastfeeding, complementary feeding, maternal nutrition (using locally available foods), and appropriate sanitation and hygiene (Casanovas & Saadeh 2009, Kenya Ministry of Health 2016). The Baby Friendly Community Initiative is delivered primarily through activities such as: establishment of mother-to-mother support groups; cooking demonstrations; home counselling visits with community health volunteers; inclusion of spouses and grandmothers in support groups; and the introduction of income-generating projects such as kitchen gardens (Masibo & Kimani 2014, USAID-MCHIP 2013). Knowledge of appropriate breastfeeding duration, amount of food to feed according to age, recommended food groups, and feeding during illness have been used as indicators to develop messages for use when counselling mothers. Nutrition messages are coupled with messages promoting good health, such as following an appropriate schedule of vaccinations and promoting appropriate hygiene and sanitation practices. The major strategy for sustaining the Baby Friendly Community Initiative programme in Kenya depends upon a well-coordinated multi-sectoral approach with various components: (a) capacity building of healthcare providers, communities and other relevant stakeholders; (b) regular supportive supervision and mentoring; and, (c) advocacy and monitoring and evaluation through proper documentation by the Ministry of Health in collaboration with partners.

1.3 Theoretical domains framework

Behaviour change is key to improving healthcare and health outcomes (Cane *et al.* 2012). According to Cane and colleagues, behaviours may be those of healthcare workers, such as the implementation of evidence-based practices, including medication adherence in patients or increased physical activity in the general population. Improving the implementation of evidence-based practice by healthcare workers therefore depends on changing multiple behaviours of multiple types of people, including health professionals (Cane *et al.* 2012, Grol & Grimshaw 2003). Changing behaviour is not easy, but it is more effective if interventions are based on evidence as well as on principles of behaviour change (Abraham *et al.* 2009).

To facilitate new practices, there is a need for all important influencers to change their behaviours as well as to understand both current and desired behaviours and their determinants (Atkins *et al.* 2017). Behavioural theories therefore provide an explicit statement of structural and physiological processes hypothesised to regulate behaviour and behaviour change relevant to implementation problems and implementation interactions (Atkins *et al.* 2017).

The theoretical domains framework (Atkins *et al.* 2017) was initially developed to support research around the implementation of evidence-based recommendations. The framework provides a theory through which behaviour can be understood. Atkins *et al.* (2017), Cane *et al.* (2012) and Michie *et al.* (2005) synthesised thirty-three theories of behaviour and behaviour change into fourteen domains, as outlined in Table 1.

The theoretical domains framework is relevant to this paper as it provides clear pathways between structural and psychological processes linked to behavioural regulation and behaviour change. The framework is therefore important for understanding the implementation and incorporation of new practices. Furthermore, evidence suggests that implementation and/or behaviour change is more successful if there is a theoretical underpinning.

Little is known about how best to incorporate messages and practices relating to nurturing care into the Baby Friendly Community Initiative in the rural Kenyan context. For the successful implementation of an integrated nurturing care programme into the Baby Friendly Community Initiative, it is imperative to understand its feasibility from the perspective of relevant users and deliverers of such a programme (that is, healthcare workers and caregivers) within the context that the programme will be delivered. Implementing or incorporating new practices and/or changing or adapting existing practices in services and systems require changes in the understanding and behaviours (or practices) of relevant stakeholders. This is facilitated by an understanding of the influences of current and desired behaviours and practices within the context in which they occur.

1.4 Aims

This paper aims to provide an understanding of the feasibility of and lessons learned from rural Kenya in providing Care for Child Development training and implementation alongside the existing health- and nutrition-focused Baby Friendly Community Initiative programme.

Table 1. The domains and constructs of the theoretical domains framework. (Source: Atkins et al. 2017)

Domain	Explanation/definition of domain	Construct
Knowledge	an awareness of existence of something	knowledge of condition; procedural knowledge; knowledge of task environment
Skills	ability or proficiency acquired through practice	skills development; ability; interpersonal skills; practice; skills assessment
Social/professional and role identity	a coherent set of behaviours and displayed personal qualities of an individual in a social or work setting	professional identity; professional role; social identity; professional boundaries; professional confidence; group identity; leadership; organisational commitment
Beliefs about capabilities	acceptance of the truth, reality or validity about an ability, talent or facility that a person can put to constructive use	self-confidence; perceived competence; self-efficacy; perceived behavioural control; beliefs; self-esteem; empowerment; professional confidence
Optimism	the confidence that things will happen for the best or that desired goals will be attained	optimism; pessimism; unrealistic optimism; identity
Beliefs about consequences	acceptance of the truth, reality, or validity about outcomes of behaviour in a given situation	outcome expectancies; characteristics of outcome expectancies; anticipated regrets, consequences
Reinforcement	Increasing the probability of a response by arranging a dependent relationship or contingency between the response and given stimulus	rewards; incentives; punishment; consequences; reinforcement, sanctions
Intentions	a conscious decision to perform a behaviour or resolve to act in a certain way	stability of intentions; stages of change model; and stages of change
Goal	mental representations of outcomes or end states that an individual wants to achieve	goal priority; goal/target setting; action planning; implementation intention
Memory, attention and decision processes control;	ability to retain information, focus selectively on aspects of the environment and choose between two or more alternatives	memory; attention; attention control; decision making; cognitive overload/tiredness
Environmental contexts and resources	any circumstances of a person's situation or environment that discourages or encourages the development of skills and abilities, independence, social competence and adaptive behaviour	environmental stressors; resource/material resources; organisational/culture climate; salient events/critical incidents; persons vs environment interactions, barriers and facilitators

Table 1. *Continued.*

Social influence	those interpersonal processes that can cause individuals to change their thoughts, feelings or behaviours modelling; alienation	social pressure; social norms; group conformity; social comparisons; group norms; social support; power; intergroup conflict; group identity;
Emotion	a complex reaction pattern, involving experiential, behavioural and physiological elements by which the individual attempts to deal with a personally significant matter	fear; anxiety; affect; stress; depression; positive/negative affect; burn-out
Behavioural regulation	anything aimed at managing or changing objectively observed or measured actions	self-monitoring; breaking habit; action plan

2. METHOD

This paper is based on the qualitative component of a larger study whose overall aim was to evaluate the potential impact of the Baby Friendly Community Initiative intervention on early childhood development in relation to cognitive, physical and socio-emotional outcomes. The study sought to establish whether supporting nutrition and health in infancy has additional benefits for early childhood development outcomes and the feasibility of incorporating parental support for child stimulation into the Baby Friendly Community Initiative.

2.1 Study design

This paper presents results from qualitative data gathered from stakeholders, caregivers and implementers of the integrated Baby Friendly Community Initiative and Care for Child Development package in rural Kenya. The purpose of the qualitative study was to determine the feasibility of incorporating Care for Child Development messages into the Baby Friendly Community Initiative and to obtain feedback on the proposed format of the Care for Child Development materials within the Baby Friendly Community Initiative. The study also sought to determine the ordering of materials for successful implementation and monitoring of the Care for Child Development elements of the programme.

2.2 Participants

We employed purposive sampling to select participants for this study. The participants included county and sub-county officials, community health extension workers, community health volunteers, early childhood development experts and practitioners,

Baby Friendly Community Initiative stakeholders (including representatives from the Ministry of Health) and caregivers of young children (including fathers, mothers and grandmothers). We conducted seven focus group discussions (FGDs), thirty-six key informant interviews (KIIs) and six in-depth interviews (IDIs), as well as a stakeholder meeting at the end of the project. The breakdown of the participants in the qualitative interviews is provided in Table 2. Supportive supervision reports from community health extension workers who supervise community health volunteers were also analysed to identify challenges that the community health volunteers faced in delivering the intervention messages in the field given their low levels of education. In total, thirty community health volunteers were trained on the Care for Child Development package—twelve male and eighteen female, ranging in age from late twenties to early sixties. These workers were all members of the communities in which they were working and had a minimum of eight years of primary education and a maximum of four years of secondary education.

Table 2. Participants in the qualitative interviews.

Participants	Type of interview		
	FGDs	KIIs	IDIs
Fathers	2		1
Mothers	2		1
Grandmothers	1		1
Community health volunteers	2		3
ECD teachers		13	
ECD service providers		12	
Community health extension workers		3	
Sub-county leaders		4	
County leaders		2	
Village elder		1	
Head of ECD organisation		1	
Total	7	36	6

2.3 Ethical considerations

The study protocol was reviewed for scientific and methodological soundness by the African Population and Health Research Center (APHRC) internal scientific review committee. Ethics approval was sought and obtained from the Amref Health Ethics and Scientific Review Committee. A study permit was obtained from the National Commission for Science, Technology and Innovation (NACOSTI). Further ethical approval was obtained through Loughborough University ethics committee. Prior to conducting the interviews, we sought informed consent from the study participants. Only participants who provided their informed consent were included in the study.

2.4 Data collection and analysis

Prior to data collection, the research team (comprising researchers from the APHRC and Kenyatta and Loughborough Universities) developed semi-structured interview/focus group guides in relation to the stated objectives. The interview/focus group guides focused on areas such as: potential barriers and facilitators to the implementation of Care for Child Development and the Baby Friendly Community Initiative at the individual, provider and policy levels; current community parental support practices for Care for Child Development; lessons learned from continual engagement with the stakeholders during the project; the experiences of delivering Care for Child Development training from lead trainers at the national level through to grassroots training; and supervision reports of community health volunteers delivering Care for Child Development messages as part of the existing Baby Friendly Community Initiative package. The questions were intended to align with salient aspects of the theoretical domains framework namely: knowledge; skills; social/professional and role identity; beliefs about capabilities; reinforcement (that is, use of rewards/punishments and understanding of consequences); memory, attention and decision processes; environmental contexts and resources (that is, circumstances, situation or environment that promote or hinder the development of skills and abilities); and social influence (that is, the interpersonal processes that can facilitate behaviour change, such as building rapport). The interview/focus group guides were developed in English and later translated by a professional translator into the local language.

To enhance the quality of the data, experienced qualitative field interviewers were recruited and trained prior to data collection. Interview guides were piloted to check the appropriateness of items as well as to ensure that they were culturally meaningful. A debrief meeting was subsequently held to revise the guides and to ensure that all the items were appropriate. The field protocol was adapted, as appropriate.

Interviews were scheduled at the participant's convenience. All the interviews and FGDs were conducted in the local language and by field interviewers who were conversant with the language. The interviews with government officials were conducted in English by research team members. The duration of the qualitative interviews ranged from 30 minutes for KIIs to up to one-and-a-half hours for FGDs. The field team was closely supervised by the research team with regular debriefs.

All of the interviews and FGDs were audio recorded. The data were then translated and transcribed verbatim and analysed through thematic analysis using a deductive approach. This was done by reading the transcripts and listening to the recording for validation. Each transcript was coded according to the thematic areas which were organised around the domains of the theoretical domains framework. The similarities

and contrasts within the data were compared by the research team in the coding process during a two-day data-coding review meeting. Similarities and differences in coding were addressed in the meeting before analysis commenced.

3. RESULTS

This section presents the results of the study with a focus on the community health volunteers' and caregivers' knowledge, skills and practices after training the community health volunteers to deliver the Care for Child Development package as part of the Baby Friendly Community Initiative package in rural Kenya.

3.1 Community health volunteers' knowledge, skills and practices on Care for Child Development

3.1.1 *Community health volunteers' knowledge on play and stimulation*

After receiving the training on Care for Child Development, community health volunteers reported that they had gained knowledge on play and stimulation (Table 3). They learned that stimulation begins during the perinatal period when the child is still in the womb. They reported that they were also made aware that, when breastfeeding, a mother is able to stimulate her child's hearing through talking. Such behaviour facilitates bonding and attachment between the mother and the baby, which in turn enhances the child's social and emotional development. Hence, mothers were encouraged to talk to their babies during breastfeeding. They also learned the importance of including fathers in play. The community health volunteers further revealed that they learned that, at birth, babies are able to see an object located up to 12 inches away (Table 3).

Through training on Care for Child Development, community health volunteers have become aware of the importance of play in relation to the child's development. According to them, they learned that play enhances children's cognitive and physical development and promotes healthy development in children. Community health volunteers reported that they use age-appropriate, locally available materials to play with the child as a way of creating rapport. The use of locally available materials was encouraged during training. The volunteers also encouraged caregivers to use locally available materials to play with their children. Community health volunteers also learned the importance of praising caregivers as a result of the Care for Child Development training. They reported that, whenever they discovered that the caregiver was aware of what they were teaching, they praised them and encouraged them to continue practising it.

During training, community health volunteers were provided with a simple checklist to observe the interaction between the caregiver and the child, to facilitate prompting of the caregiver by asking questions to understand how the caregiver plays and communicates with the child as they record. Community health volunteers reported that they found the checklists which they were provided with during the training on the Care for Child Development package to be useful.

After the Care for Child Development training, the community health volunteers reported that they were able to train caregivers on the importance of exclusive breastfeeding during the first six months. They taught caregivers how to hold the baby when breastfeeding whilst also encouraging play and stimulation, thereby integrating messages from both the Care for Child Development package and the Baby Friendly Community Initiative. Community health volunteers also reported that they had learned that colostrum is rich in nutrients which support the baby's development and that is why they encourage mothers to exclusively breastfeed babies immediately after birth (Table 3).

Table 3. Community health volunteers' knowledge, skills and practices on Care for Child Development and infant feeding.

Knowledge on play and stimulation

Care for Child Development is beginning from when helse is still in the stomach. Even if you touch—if the mother touches like this [rubbing stomach]; I mean, helse moves because helse can hear. And again, the mother must be comfortable. Because if she has a disturbance; I mean being scolded and has stress, then the child becomes stressed too.

(FGD with community health volunteers)

Now when you are breastfeeding him/her, you talk to him/her. I mean when you are talking to him/her, you will know if this child truly is active or is not active. It means—for me I understand it as to make friendship with a child since when helse is small, you become his/her friend, stay close to him/her, play with him/her, talk with him/her and you will help that child to develop.

(FGD with community health volunteers)

So when helse has been born, first you see if the child can see. You move your finger, 12 inches, helse sees. ... his/her eyes twists, it goes around like this. ... Again, a child when helse is growing, helse feels, I mean attachment. Helse tries to move because helse has seen, has felt.

(FGD with community health volunteers)

Importance of play

When you play with him/her, you will see if the hands have any problem. When you give him/her something and helse stretches the hand to you, you will truly know if the hands are okay or not okay. And then, again, when helse continues to grow, when helse moves even on the legs, you will see truly if the legs of that child are okay, or not okay. According to me, Care for Child Development helps the child to develop in the brain; muscles especially in this part of the hand [showing], it helps that.

(FGD with community health volunteers)

Table 3. *Continued.*

And it is true that the fathers were not coming close to the child. They were saying a small child belongs to the mother. Because even when we arrive at households, if you ask if they play with the child, they say it is the mother who usually plays with the child. But after the training, I saw that even the father has taken his space.

(FGD with community health volunteers)

Age-appropriate play with use of locally available play materials

You take those materials when going for the visit, when you reach a place where you get a child depending on the age; you show the child, the mother or the caregiver that [material]. This thing can help the child to play ... when helshe is trying to knock like this. For example, something like a spoon; you tell her, give [the child] something like a spoon to knock-knock like this. When helshe is knocking it like that, helshe is trying to get the sound of that thing; and also muscle development.

(FGD with community health volunteers)

A child of less than one year, you give him/her things to play with; maybe of putting inside a container or hitting. And then a child who has not reached one year, you can give him/her shakers or things to hold and look at. And a small child who maybe is not able to hold something; you can give him or her things to stretch the hands, and to look at so that you can see whether helshe is seeing or hearing. You can shake sideways or in front of him/her, if you want to know if helshe is hearing you can shake both, so that helshe tries to turn like this; and then that very small child of one week to six months; you can just give [materials] of looking at because helshe cannot hold; helshe will just look at it. Then you will know helshe can see.

(FGD with community health volunteers)

Using checklists to record observations

[The] checklist is what helps us to know if the counselling card has worked. Because when you arrive at a household, you look at a child and then you record what you see and then there is a place where you ask and listen so that you can know if helshe has known what you have taught. And if helshe has known, you praise him/her. So you will ask her the name, and then as you teach you will be ticking there in the counselling card. If she has told you that the child is four years, now you go there and indicate what is in there. You will go to the checklist and indicate age; for example, there where it is written 'child under six months'.

(FGD with community health volunteers)

Knowledge of feeding practices

I think [the] Baby Friendly Community Initiative is exclusive breastfeeding. The child must be breastfed exclusively immediately after being born. So [the] Baby Friendly Community Initiative and Care for Child Development go together because the child must be breastfed for six months and then the things of Care for Child Development enter inside. It is done together.

(FGD with community health volunteers)

When you are positioning, and how you hold the child. When you breastfeed the child as shelhe is looking at you. You breastfeed as you talk to him/her as helshe is looking at you. So, I see that Baby Friendly Community Initiative and Care for Child Development enter there.

(FGD with community health volunteers)

I have even known that, the colostrum—when a child is breastfed, it contains a lot of nutrients. Now it has taught me because those are things I had not known. So I have really learnt.

(FGD with community health volunteers)

3.1.2 Community health volunteers' skills in practice and social relations

The community health volunteers reported the importance of creating rapport at the beginning of the counselling session with the caregiver and infant. They revealed the practices they used to facilitate this. They reported that, when they got to the household, they began the session by introducing themselves and then explaining the purpose of their visit before counselling the caregiver. They asked caregivers to demonstrate to them how they play with the baby, and congratulated them, before starting to counsel them. Community health volunteers recognised that praising the interaction between the caregiver and the child is one way of motivating caregivers to continue playing with their child. Community health volunteers revealed that, in order to further create rapport with caregivers and infants whenever they visited families for counselling, they carried with them play materials which they had made from locally available raw materials. The materials helped them to trigger the infant's interest in the play activities while they counselled the caregivers. Using such a strategy facilitated engagement with the caregiver on the topic of play and stimulation (Table 4).

Several community health volunteers were able to articulate how the Care for Child Development training had improved their social and professional standing within the community. This had in turn improved their confidence to support the nurturing care of infants. The community leaders demonstrated confidence in the community health volunteers by, for example, inviting them to talk to parents on supporting early child development (ECD) at the village chiefs' *barazas* (meetings). Community health volunteers reported that they are applying the knowledge gained in the interactions that they have with their own children. They also felt that the training had made them become important social influencers as role models on care for child development within their communities (Table 4).

Community health volunteers revealed that, as a result of the Care for Child Development training, they felt more confident in encouraging caregivers to use locally available play materials, such as household objects like spoons, metal plates and plastic cups and bottles, as play objects for their children. They also reported having better capabilities to help caregivers to form play partnerships with their infants by ensuring that the play environment and materials were safe and conducive for children.

Table 4. Skills and roles of the community health volunteers.

Creating rapport

We were taught that when we are starting to counsel parents or families, first we greet them and then we do our introduction and then we tell her to start playing with the child. They should speak to the child and feed him/her well and play with him/her. And then if they are doing well, we appreciate.

(FGD with community health volunteers)

Table 4. *Continued.*

Now you take those materials when you are going for that visit, so that when you reach a place where you get a child depending on the age, you show the child and the mother or the caregiver. I will ask her how she is playing with the child. The way she will tell me, if she knows I will congratulate her for doing that. And if she will not know, I will tell her the importance of playing with the child and why she should play with the child. And when she is there and she does not have anything of buying for the child, she can even make it at home.

(FGD with community health volunteers)

Social/professional role identity, confidence and influence

Me on the side of training, it was able to build me. I got to be recognised in the community, they have liked maybe the teachings I have taught, and even in those meetings which are in Barrazas, maybe even the church I get an opportunity to give out a message. It will be my happiness when I will see that the child is growing mentally, health-wise, and maybe she has been favoured and loved by the community.

(FGD with community health volunteer)

We communicate with him a lot. Because I tell him [inaudible chanting], he does like this, when I tell him 'eat', he says [inaudible]. Then you say, you know that he wants food. Before we were not concerned with matters of playing with children; we did not have time. But these days we are understanding there is a benefit for playing with children. How to show him even to shake things, he gets a different knowledge. Even when he kicks a ball, again he gets practice. The body becomes flexible and he gets good health. We have seen benefits from them that we were not getting those days.

(FGD with community health volunteers)

Community health volunteers' beliefs and capabilities to counsel

I am very much grateful because it has assisted me personally as an ECD teacher and again, I have become courageous when I usually meet a caregiver with a child. I already have a message of giving it to her at all times. I no longer fear. I really have confidence to do everything. Yes, I see it is good. I see it is good because I am a grandmother of many grandchildren and when I come to where I am, they know that grandmother likes playing. That time they come to play. Yes, them coming to me, they know they will get many teachings.

(interview with a community health volunteer/ECD teacher)

For me, when I arrive at the child's mother, or the caregiver, first I ask how they play with the child. Now at my place, I have a mother who has a child of one week. ... Now I have taught them how to be close with the child and to be really skin to skin. So I made shakers so that the time I am going; I go and play with children. Even at home, I called groups of women and we went and helped the children with the mothers. I taught them until even we made materials of playing with a child.

(FGD with community health volunteers)

3.2 Caregivers' knowledge, skills and practice on Care for Child Development

3.2.1 Caregivers' knowledge on care for child development

Through counselling by community health volunteers on Care for Child Development, caregivers (mothers, fathers and grandmothers) reported that they had acquired knowledge about the importance of playing with their infants during pregnancy and

after birth. The counselling helped fathers and grandparents to understand that the tradition of them not being involved with the infant was not good for the infant's development. Mothers reported that they learned the importance of playing with their children and that, through playing, children learn how to imitate tasks and later learn how to do those tasks. They gave examples of locally available play materials that children can play with. Mothers also learned the importance of praising their babies whenever they do something right (Table 5).

3.2.2 Caregivers' knowledge on children's communication and language development

Mothers and fathers revealed that, through counselling, they had learned that talking to the child helps the child learn how to speak, while playing with him/her helps in acquiring social skills. The social skills in turn enhance brain development. Mothers further reported that, after counselling, they were more likely to label objects, animals and people in the environment to enhance their infants' language development (Table 5).

3.2.3 Caregivers' skills and capabilities in Care for Child Development

Through counselling, mothers reported that they had gained knowledge and skills about utilising local materials to fashion play objects for their infants, as well as about the importance of creating time to play with their children. Mothers also reported that they had learned new tactics to encourage babies to walk such as calling out to them (the children) going towards them (mothers), or reaching out to the child. Mothers reported that the counselling cards were an important tool for helping them understand the Care for Child Development messages from pregnancy into the early years of a child's life (Table 5).

3.2.4 Caregivers' knowledge on nutrition

Interviews with both mothers and fathers revealed that they had retained knowledge regarding optimal infant feeding practices after the training on care for child development: that is, the new training had not taken away knowledge from their original training on the Baby Friendly Community Initiative. This finding suggested that the community health volunteers were able to incorporate counselling on optimal infant feeding practices into the support for Care for Child Development. For example, mothers, fathers and grandmothers reported that, through counselling and community information days, they had learned the importance of exclusive breastfeeding in the first six months (Table 5).

Table 5. Caregivers' knowledge, skills and practices on Care for Child Development.**Caregiver knowledge on care for child development**

The mother should respond when helshe plays in the womb or the father; both parents to cooperate in the development of this child. Again a child when helshe is born, we must play with himlher, we must give himlher good nutrition and playing with that child helps the child's neck and bones to be strong. And again when helshe is breastfed and spoken to, it helps bonding between the mother and the child.

(FGD with mothers)

You can go and hide yourself by a tree, and the child, pretends to be looking for you. At the same time, you can go behind the child and then you try to speak, so that helshe will try to find you. Another thing: you can hold something like [inaudible], like this, you show himlher. So when you are stretching it towards the child, helshe is learning, that attraction when the child is trying to hold that thing.

(interview with a father)

Even me, it has become of benefit to me very much because when we were being taught there, I started with my grandchild of my son's wife, when she came home. Now I started to teach her and to show her how to care for that child, and to play with. And I made for her those objects of playing with. So she was very happy even when she is there in Nairobi she calls me and says 'how many have you made?'. I tell her, 'it is there, come and take'. I made for those of my neighbours who are young. Many times they come to my home, and we make them; they stay very close to me. And I see that it's a very important thing. And I monitor those I have taught as we continue together.

(FGD with grandmothers)

Sometimes when she does that, I tell her, 'good girl'. I clap for her there, she even likes it, I repeat like that, I tell her, 'good girl', like that.

(IDI with a mother)

Involvement of other caregivers besides the mother in care for child development

Now us men, we did not know the responsibility of caring for a child. Caregiving was only for mothers ... we gave the mother her work, when she has delivered, she continues with her child. But, after the training, we knew that this care for child development brings everyone closer to the child.

(FGD with fathers)

In the past, we never used to play with children. We believed that this would make them old. Now after the Care for Child Development teachings, we are more confident about playing with children.

(FGD with grandmothers)

Caregiver knowledge on communication and language development

To play and to communicate with a child means development for the child. Let us say, the child starts to develop in the brain and helshe starts again to look at the environment, to see how things can be in the environment.

(FGD with mothers)

Table 5. *Continued.*

You can tell him/her to call the name father, mother, or you can tell him/her to call his/her name. It is almost the same. Only that if I tell him/her to bring me something ... like a cup, you tell him/her to bring a cup and tell him/her how it is used. You associate some things with how they are used. Yes, it is like that.

(FGD with mothers)

Caregiver knowledge on nutrition

I used to breastfeed [the child] like thirty minutes it was enough. But [the community health volunteer] told me about one hour, stay with your child; breastfeeding him/her. You know even me. I wasn't able to deal with the child, those thirty minutes, then I run, I go to other activities. Then the Community Health Volunteer came and told me 'no', have time with your child first then other things to come later.

(FGD with mothers)

We talked about the time the child has been born, and how to feed the child from there is to give breast milk until like six months so that the child has energy, you must do breastfeeding first. After that you start feeding the child after six months. To feed him/her a little—a little with that food that is required so that he/she can get energy. You give him/her things like proteins carbohydrates and things like vitamins and fruits. All kinds.

(FGD with fathers)

In the past, grandmothers used to give their grandchildren traditional medicine before six months, but they now advocate for exclusive breastfeeding in their households.

(FGD with mothers)

Mothers' belief in their ability to play and stimulate their babies

... it is not a must you buy him/her things to play with. You just give him/her his/her things if they are clean to play with; you don't have to go to the shop to buy things to play with. You can show him/her bright colours ... that his/her eyes can like ... and then you make the things he/she plays with not to be small. Make them to be a little bigger and bright, that he/she loves.

(FGD with mothers)

At times the child can try to walk. You can tell him/her to stand with one leg; you can tell him/her run there and bring me a cup; you can tell him/her bring me a knife, a sieve, things like that.

(FGD with mothers)

Care for Child Development tools

I think at first when we were being taught things of stages, how a child is supposed to be played with, it was hard to understand it ... from which stage to which stage or how to use an object. But later when we were given that counselling card, it helped us very much. Because the time that we had was not very long for learning so many topics. But after going with that counselling card, it taught us.

(FGD with mothers)

3.3 Challenges experienced by community health volunteers in implementing Care for Child Development

It was apparent from the supportive supervision reports provided by community health extension workers that various challenges were experienced by community health volunteers in implementing Care for Child Development training. The challenges that they reported included:

- Community health volunteers tended to forget what they had learned during the Care for Child Development training, particularly if they did not use the messages frequently.
- When a community health volunteer is transferred to a new community unit after having been trained on Care for Child Development and the Baby Friendly Community Initiative and the new unit does not have a trained supervisor (community health extension worker), the community health volunteer is not likely to apply the knowledge gained as the combination of lack of experienced supervision and the community health volunteer needing to familiarise themselves with the new households and caregivers result in an environment not conducive to delivering the intervention. This highlights the importance of supportive supervision in the process as well as not burdening community health volunteers with too many new parameters.
- Lack of regular documentation and reporting/monitoring of activities that community health volunteers were carrying out in the community in relation to implementation of Care for Child Development and the Baby Friendly Community Initiative meant that there was inadequate information on the programme implementation process.
- A gap in the knowledge around maternal infant and young child nutrition was noted among the community health volunteers, particularly with regard to complementary feeding. This could be attributed to the fact that, since the main aim of the earlier intervention was to improve breastfeeding practices, the initial training on the Baby Friendly Community Initiative emphasised messages on exclusive breastfeeding. Less time was therefore spent on training that focused on complementary feeding because of meagre training resources. Community health volunteers may not be very conversant with the recommended food groups, or with the frequency and quantity of feeds that should be given to babies when they are weaned. This highlights the importance of providing adequate time to train on each of the key messages of the Baby Friendly Community Initiative and Care for Child Development.
- During counselling sessions, it was observed that the community health volunteers would often place greater emphasis on Care for Child Development

messages with little focus on the Baby Friendly Community Initiative/Maternal Infant and Young Child Nutrition messages. The focus on Care for Child Development messages was attributed to the fact that training on this aspect was more recent than that on the Baby Friendly Community Initiative.

- Community health volunteers may have felt overburdened by the need to concurrently deliver the combined Care for Child Development and Baby Friendly Community Initiative messages to caregivers.
- Some community health volunteers did not carry or use the Care for Child Development counselling materials during their visits and could therefore not rely on them as prompts for the guidance they should provide to caregivers in response to what they had observed.
- Some community health volunteers had not grasped specific key messages for each age group, leading them to dwell on caregivers’ past practices which may not have been appropriate for the child’s current age.
- Some fathers continued to face cultural challenges in publicly supporting their wives with child care, revealing the continued social and environmental constraints to optimal care.

Stakeholder engagement (with the trainers and with individuals from the county health department, community health extension workers and Ministry of Health) at the end of the project resulted in a number of suggestions to overcome the challenges faced by community health volunteers, as well as suggestions to improve the training (see Table 6). The suggestions focused on improving reporting tools, updating the counselling cards with simplified messages and more pictures, delivering regular supervision and mentorship of community health volunteers, and the provision of opportunities for more practice during the training of community health volunteers.

Table 6. Suggestions to mitigate challenges encountered and some recommendations for improving future Care for Child Development training.

Area of practice	Suggestion/recommendation
A need for a combined reporting tool for community health volunteers	<ul style="list-style-type: none"> • A reporting tool that combines content from both the Baby Friendly Community Initiative and Care for Child Development messages is needed for the community health volunteers to document their work. • An integrated checklist is required because having two different checklists, one for Care for Child Development and one for Baby Friendly Community Initiative, is cumbersome and they are difficult to use concurrently.
Updated counselling cards	<ul style="list-style-type: none"> • Updated counselling cards and a simplified key-messages tool should be developed as job aids for the community health volunteers.

Table 6. *Continued.*

Community health volunteer supervision/mentorship	<ul style="list-style-type: none"> • There is a need for the counselling cards to be more visually appealing than those with words alone. • There is need for quarterly community health volunteer supervision to be led by the sub-county health management team. However, supervision by community health extension workers should be more regular. More contact between the sub-county health management team and community health extension workers is needed to build the capacity of the community health extension workers. • Continual mentorship and close supervision of community health volunteers will likely encourage them to continue counselling caregivers. However, this can be an expensive venture and needs to be properly costed.
Supporting fathers to embrace caregiving practices	<ul style="list-style-type: none"> • There is need for community health volunteers to continue encouraging fathers to support their wives in caregiving.
Recommendations for community health volunteer training	<ul style="list-style-type: none"> • The training content should be tailored in such a way as to make the content very simple to understand in order to meet the needs of community health volunteers who are likely to have low levels of education. The current level of training was not always appropriate to the qualifications of a community health volunteer within the Kenyan context. • There is a need to have more practical sessions during training to enable community health volunteers to acquire the necessary knowledge and skills on counselling in relation to Care for Child Development. • The training materials and tools utilised should be summarised into a format that is simple and easy to grasp. Consideration should be given to including more pictures and illustrations in the training materials. • The time allocated for practical sessions in the health facility, community and preschool was found to be insufficient for trainees to master the skill of counselling caregivers and playing with children. It may be helpful to allocate more time for practical observations, particularly for community health volunteers, since they are the ones who provide the counselling to caregivers in the community and schools.

4. DISCUSSION

The aim of this study was to provide an understanding of the feasibility and lessons learned from rural Kenya in providing Care for Child Development training and supporting its implementation alongside the existing health and nutrition focused Baby

Friendly Community Initiative programme. The paper is based on the findings obtained through interviews with caregivers (mothers, fathers and grandparents), stakeholders and community health volunteers, as well as the monitoring notes of community health extension workers.

The findings revealed that, in addition to the training on the Baby Friendly Community Initiative provided two years earlier, training on Care for Child Development resulted in community health volunteers and their supervisors being able to articulate key messages from both programmes/packages. Community health volunteers were also able to demonstrate the skills that they had acquired to support effective implementation of the Care for Child Development messages. These skills included making toys with locally available materials and beginning their counselling sessions with observations of the interactions between the mother and child to obtain opportunities for praise and learning. Community health volunteers also reported improved self-confidence in their own abilities and increased social status in the community as a result of the additional skills that they had gained through the training. Their participation in community meetings where they were engaged to impart knowledge on early childhood development had positive effects on fathers' involvement in nurturing care for their infants that went beyond individual counselling sessions. Greater involvement of fathers in early childhood care and development is particularly important in a context where, due to cultural norms, the care of young children is considered as 'women's work'.

The positive results notwithstanding, a number of barriers to successfully integrating the Care for Child Development and Baby Friendly Community Initiative were identified. It is of utmost importance to address these barriers in order to improve future intervention training and delivery.

4.1 Knowledge

Community health volunteers participated in Care for Child Development training to enhance their understanding on the importance of play and stimulation during early childhood. They were able to accurately talk about the importance of stimulation during pregnancy and feeding episodes as well as how to support play through the provision of locally relevant, age-appropriate materials. For instance, they could recall the Care for Child Development training message that the unborn baby can be stimulated through touching and massaging the mother's tummy and through speaking or singing to the foetus. This reinforces Hepper's assertions that the foetus first begins to experience the world through touch, and later in pregnancy begins to hear, taste, smell and see (Hepper 2015).

Community health volunteers were able to articulate the relationship of play to brain development and to the development of motor skills and socio-emotional skills. They were also able to appreciate that children of different ages needed stimulation with different activities and materials because of their different developmental stages. The finding that caregivers also recognised the importance of play and stimulation for their infants' or young children's development illustrated that community health volunteers were successful in imparting the knowledge that they had obtained through the training. A number of caregivers were also able to report knowledge on the importance of optimal infant feeding, a finding which illustrated their ability to internalise messages from the original Baby Friendly Community Initiative intervention as well as the Care for Child Development package. This finding suggests that, for some caregivers, multiple messages can be delivered and understood.

Community health volunteers were also able to articulate the importance of observing feeding and play episodes in order to identify infants with potential developmental delays for referral to appropriate health services. These findings suggest that the capacity of low-cadre health professionals can be built to such a level that they are able to share these messages effectively. Caregivers can also gain knowledge about the importance of stimulation and play to improve early child development. This is important because, if the intervention is to be scalable and sustainable, it needs to be delivered by health workers who exist in sufficient numbers to be able to deliver this task.

4.2 Skills

Providing nurturing care to children through good nutrition, stimulation and play during the critical window of development between pregnancy and the first three years of life prepares them to grow, develop and fit well into their environment (WHO *et al.* 2018). In low-resourced settings, caregivers can receive the requisite knowledge on appropriate nurturing care through home visits provided by community health volunteers who are trained on integrated messages from the Care for Child Development and the Baby Friendly Community Initiative packages. We were keen to understand whether or not the training helped community health volunteers to gain the necessary skills to retain and integrate the combined messages during the home visits, because imparting knowledge does not necessarily translate into practice. The finding that a number of community health volunteers demonstrated an ability to retain and pass on knowledge from both the Baby Friendly Community Initiative and Care for Child Development trainings is evidence that strategies to integrate related messages are effective.

The community health volunteers in the study area focused on supporting maternal and child health, which might explain why some were able to retain this knowledge as they were not being asked to work to support other health conditions or public health messages and were specialising in maternal and child health and development. These findings support the idea of supporting community health volunteers to work in specialist areas, such as nurturing care from conception to three years, rather than spreading knowledge thinly over several specialties. Campbell *et al.* (2014) maintain that the early developmental processes, and experiences in pregnancy through to age three, have been shown to significantly impact children's health, learning and productivity as well as social and emotional well-being. The effects last for the remainder of childhood and through to adolescence and adulthood. There is, therefore, good evidence that it is worthwhile to invest in providing community health volunteers with specific skills to support nurturing care through counselling caregivers. From our observations, it was apparent that some community health volunteers and caregivers were less able to retain all of the messages. This might be linked to the lack of supportive supervision that some community health volunteers received when a community health extension worker moved from one locality to another, or it could be due to the challenges in training and implementation. Further work is required to elucidate the specific influences contributing to this outcome.

The community health volunteers were able to internalise the importance of creating rapport with caregivers and their infants through strategies such as taking home-made toys to the home visit which they could use to engage the infant. They also articulated the importance of observing the caregiver and infant before counselling to identify behaviours that could be praised and used as an anchor for the counselling session. Caregivers were also able to articulate the importance of making toys available to the child using locally available materials. Using locally available materials to support play demonstrated support for Care for Child Development in this setting which in turn has the potential to enhance the social and emotional development of children. This is important because interpersonal skills are fostered through secure affective relationships with caregivers, and so abilities created in early childhood have lifelong effects on socio-emotional skills (Nofziger & Rosen 2017).

4.3 Social/professional role identity, confidence and social influence

The community health volunteers reported that the additional training they received on Care for Child Development raised their status within the community and resulted in them being invited to contribute to community meetings to share their knowledge beyond individual counselling sessions. The resultant boost in their confidence and

prestige within their local community facilitated involvement of the broader community in understanding and supporting the nurturing care messages. An unintended effect was that there was somewhat increased male involvement in nurturing care support, as community health volunteers reached out to them specifically. Fathers reported gaining both knowledge and a new understanding of their role in supporting the development of their offspring as a result of the messages the community health volunteers had communicated after the training. Overall, social influences remain a barrier to fathers' complete engagement in the nurturing care of their infants. Future interventions should consider including greater support for fathers as well as devising means of breaking down cultural and social barriers to fathers' involvement.

4.4 Beliefs, capabilities and reinforcement

The Care for Child Development training resulted in community health volunteers having stronger beliefs in their capabilities to support caregivers to interact with their children through play and to support play partnership formation through interaction with safe locally available toys and objects. The community health volunteers were also aware of the importance of reinforcement. They praised caregivers who engaged in good practices and also taught caregivers the importance of praising their child. Similar to the findings from other studies, caregivers were able to develop the habit of praising their children in order to reinforce appropriate developmental behaviours after receiving the Care for Child Development messages (Nofziger & Rosen 2017). In this setting, after observing the caregiver, counsellors were able to capitalise on the information gained to counsel the caregiver using information given on counselling cards appropriate to the child's age.

4.5 Challenges (and solutions) related to environmental contexts and resources

The challenges reported in the interviews with stakeholders were identified at the individual, household, community and societal levels. Some of these challenges were related to personal and traditional beliefs surrounding the care of young children. Others were concerned with tailoring the training content to the level of the trainees, as well as the need for continuous training and supportive supervision, and improved monitoring and reporting tools.

It is noteworthy that the participants themselves were able to identify solutions to the identified challenges. For instance, the use of counselling cards with more visual cues than words was preferred by the community health volunteers, as this would simplify the messages and make them easier to understand. More opportunities for practical experiences during the training would also enhance the internalisation of the

Care for Child Development messages. Continual supportive supervision was identified by community health extension workers as a way to provide ongoing support and regular feedback to enhance the delivery of these messages. In addition, an integrated reporting and monitoring tool, structured according to the age of the child, would promote ease of use and facilitate better monitoring of the programme. Such a tool would also be useful for the Ministry of Health and District Health Services which provide resources to the programme.

There is need for more opportunities for feedback to community health volunteers on their counselling skills to go beyond the training and include the implementation of the Baby Friendly Community Initiative and Care for Child Development training into their daily duties. Experiences from the field suggest that there is a need for two levels of supervision of the integrated programme. One level would be on a quarterly basis, between the sub-county health management team and the community health extension workers (supervisors of community health volunteers). At the lower level, community health extension workers would supervise community health volunteers on a monthly basis. Similar observations were made in Pakistan where Lady Health Workers (equivalent to community health volunteers) delivered a Care for Child Development intervention and were found to need more regular supervision (Gowani *et al.* 2014; Yousafzai *et al.* 2014, 2105). The cost of this 'extra' supervision needs to be ascertained to ensure that this would be feasible given the available resources in Kenya. There is need to deliver the programme at scale and this would require additional resources to train master trainers who are in short supply within the country. Another challenge is not having enough master trainers to take the Care for Child Development training to scale in Kenya. This will also require resources to train the master trainers to deliver the programme. The reliance on lower level health workers to deliver the programme means that supportive supervision, where mentorship can happen in everyday practical situations, is an important part of the learning and sustainability of the programme. We have demonstrated that, where regular supportive supervision is not available, community health volunteers are not able to retain and implement the counselling messages successfully. Supportive supervision is therefore a critical factor in scaling up the Care for Child Development training. This challenge has also been identified in other evaluations of the implementation of Care for Child Development in other low- and middle-income countries (Lucas *et al.* 2017)

Increasing the involvement of male caregivers requires overcoming the challenges that are informed by cultural beliefs and traditions. There are opportunities within the Baby Friendly Community Initiative model to address the topic on the importance of fathers as caregivers in supporting Care for Child Development. This could be done within community support groups and activities that are facilitated through village elders as part of the existing Baby Friendly Community Initiative package. When such

messages come through the community leaders, there is likely to be a positive impact on male engagement in childcare, in particular, and resultant changes in social and cultural beliefs on male involvement in childcare in general.

5. CONCLUSION

Through engagement with the Ministry of Health in Kenya throughout this project we have learned that there is political will to support a nurturing care package to promote the optimal early child development of infants and young children. The main findings of this research have shown that training community health volunteers on the Care for Child Development package enabled them to deliver Care for Child Development messages alongside those of the Baby Friendly Community Initiative during counselling sessions in rural Kenya. The findings suggest that a more integrated approach to training, coupled with the provision of updated and refined materials that support the programme, would further improve the support for nurturing care. While there is some integration of support for early child development and nutrition and basic health messages in the 2016 version of the Care for Child Development package, community health volunteers report requiring more visually stimulating materials for better engagement with families. These materials need to be supported by regular monitoring and supervision of both the community health volunteers and their supervisors. Establishing the cost of such monitoring needs will better inform the potential feasibility of scaling-up this approach in rural Kenya where resources are limited.

In this study we have only been able to consider lessons learned and the potential feasibility of community health volunteers delivering both the Baby Friendly Community Initiative and Care for Child Development messages in a non-integrated training and implementation package. There also remains a need to study the potential effects of implementing a fully combined intervention within the Baby Friendly Community Initiative model, which includes community support for the intervention beyond individual counselling by community health volunteers. This would facilitate understanding of how this model would influence infant nutrition, growth and early child development in this rural Kenyan context.

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The role of graduation programming in promoting early childhood development: an overview of the evidence

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Abstract: It is widely understood that poverty undermines early childhood development (ECD). In turn, poor ECD reinforces intergenerational transmission of poverty. Comprehensive economic strengthening and social protection programmes, such as ‘graduation programmes’, may offer a ‘double boon’: they can improve ECD in the short term and break the intergenerational cycle of poverty in the long run. This article provides a comprehensive review of the state of the evidence regarding the role of graduation programmes in ECD in the Global South. We find positive effects in relation to nutrition and health, but observe large evidence gaps with respect to safety and security, responsive caregiving and early learning. Tension between work and care, shortcomings in design and delivery and structural barriers form impediments to positive change. A greater and more holistic focus on children within graduation programming is crucial for securing ECD outcomes and ultimately achieving poverty reduction in the long run.

Keywords: Early childhood development, poverty, social protection, economic strengthening, graduation programmes.

1 INTRODUCTION

Despite widespread progress in the last decades, millions of children experience deprivation in their early lives, and are therefore hampered in their biological and cognitive development (Black *et al.* 2017). Poverty is one of the main risk factors that can undermine children's early development (Walker *et al.* 2011). In turn, poor early childhood development (ECD) reinforces intergenerational transmission of poverty. Economic strengthening through comprehensive social protection may counteract risk factors in child development, such as undernutrition, maternal depression, poor caregiver–child relationships and violence (Engle *et al.* 2007, Walker *et al.* 2007, 2011). Moreover, these effects can be augmented by programme components that directly seek to improve non-economic outcomes, such as social development, nutrition, health and sanitation training. This affords programmes with the potential to break the intergenerational cycle of poverty and improve outcomes into the future.

The so-called 'graduation model approach' underpins a relatively new wave of comprehensive social protection interventions that has gained considerable momentum in the past five to ten years. The approach is based on the premise that people living in extreme poverty require a big push to move into a positively reinforcing cycle of economic advancement and improved livelihoods (Carter & Barrett 2007, Hashemi & Umaira 2011), and to ultimately 'graduate' out of poverty (Devereux & Sabates-Wheeler 2015). They are therefore also referred to as 'graduation programmes'. The approach was first operationalised in Bangladesh, but has since become a popular mechanism across the globe with interventions being implemented in more than forty countries (Arévalo *et al.* 2018).

Graduation programmes may hold potential for improving ECD in various ways. The focus on economic strengthening and poverty reduction may directly address the main risk factor hampering ECD, namely poverty. Greater availability of income could also indirectly reduce other risk factors, such as maternal stress and depression. In addition, the graduation programmes' comprehensive approach provides scope for improving ECD beyond the programmes' income effect. Their strong focus on training and coaching also holds potential for changing caregiving practices that are crucial for young children, such as infant and young child feeding (IYCF) and responsive caregiving.

Nevertheless, graduation programmes may also hold risks for young children and their developmental potential. The establishment and running of income-generating activities that are promoted through the programme and participation in other programme activities place extra demands on caregivers' time and resources. This may come at the expense of quality care for infants (Roelen 2015), particularly if programmes engage primary caregivers and incentivise activities that are far away from the home.

Evidence regarding the role of economic strengthening at large and graduation programmes more specifically on outcomes for young children is expanding but

relatively scarce. Furthermore, underlying mechanisms are poorly understood (Ssewamala *et al.* 2014). To our knowledge, there has not been any attempt to provide a review of graduation programmes and their impacts on ECD. This article aims to fill that gap by offering a comprehensive review of graduation programmes from across the Global South and their impacts on ECD outcomes.

2 CONCEPTUAL FRAMEWORK

The conceptual framework underpinning this study builds on understandings of ECD and its risk factors, the theory of change underpinning graduation programmes and existing evidence with respect to economic strengthening and cash transfers and their impact on ECD.

2.1 ECD

Child development refers to the emergence of interdependent skills of sensory–motor, cognitive language, and social–emotional functioning (Engle *et al.* 2007) or ‘a gradual unfolding of cognitive–language, social emotional and sensory–motor capacities’ (WHO 2013: 4). Development of these capacities and skills in the early years lays the foundation for acquisition of skills through the lifecycle (*Lancet* 2016).

The 2016 *Lancet* Early Childhood Development Series emphasises the ‘Nurturing Care’ framework in further understanding and improving efforts towards ECD. Nurturing Care has been defined as ‘a stable environment that is sensitive to children’s health and nutritional needs, with protection from threats, opportunities for early learning, and interactions that are responsive, emotionally supportive, and developmentally stimulating’ (*Lancet* 2016: 2). The framework includes five domains that are crucial for ensuring that children can reach their full developmental potential: (i) health, (ii) nutrition, (iii) security and safety, (iv) responsive caregiving and (v) early learning (Black *et al.* 2017). Growing up in supportive family and community environments and conducive social and economic contexts is crucial for ensuring positive outcomes in these five domains of early childhood development (Black *et al.* 2017).

2.1 Graduation programmes

Graduation programmes have become increasingly popular and have been commended for their success in ‘graduating’ people out of extreme poverty (Devereux & Sabates-Wheeler 2015). Interventions provide a comprehensive package of sequenced support, including a combination of cash transfers, asset transfers, access to savings and credit, training and tailored coaching. Support is time-bound, with programme duration

ranging between 18 and 36 months (Arévalo *et al.* 2018). The programmes' underlying rationale suggests that the combination of components and their mutually reinforcing synergies lead to positive and sustainable impacts on poverty. Indeed, the combination of economic resources and messaging appears to be key in affecting positive change (Roelen & Devereux 2019).

The evidence base regarding the impact of graduation programmes on poverty, economic outcomes and household living standards is expanding rapidly. Rigorous evaluations of graduation programmes showcase positive impacts on consumption, assets and food security, and that positive effects are—at least partly—maintained after the programmes come to an end (Banerjee *et al.* 2015).

Intra-household dynamics in relation to programme participation, and the extent to which graduation programmes benefit individual household members remain relatively unexplored. Nevertheless, momentum is building regarding the acknowledgement that impacts on children need to be better understood. While programmes may positively impact children's lives, their focus on productive activities and entrepreneurship may also present a trade-off in terms of time and attention that can be allocated to care for children.

2.3 Pathways from programme participation to ECD

Considering existing literature on economic strengthening, cash transfers and ECD, we provide hypotheses for various pathways through which graduation programmes may affect ECD outcomes.

Firstly, *programmes are likely to have a positive impact on ECD outcomes as a result of their income effect*. Greater availability of income—both as a result of cash provided by the programme and through income generation as a result of productive activities that are promoted by the programme—can directly improve food security and dietary diversity, and access to health and education services. Evaluations of cash transfer schemes provide testimony to the powerful effects of the regular and predictable influx of income in these areas (Bastagli *et al.* 2016, de Groot *et al.* 2017). Greater income security can also lead to better mental health and reduced poverty-induced stress, thereby indirectly addressing risk factors and ECD outcomes. Studies of cash transfers find positive effects on child–caregiver relationships and caregiving practices (Owusu-Addo *et al.* 2018, Roelen, Delap, *et al.* 2017).

Secondly, *the integral role of training and coaching within graduation programmes offers scope for changing practices* through sensitisation and behaviour change communication. In addition to training about livelihoods and income-generating activities, many programmes also include messaging about nutrition, sanitation and health practices. Interactions tend to be frequent, with scope for tailored follow-up

through home visits by frontline staff. Such interactions hold potential for improving knowledge and changing caregiving practices (Barrientos *et al.* 2014, Roelen & Devereux 2019).

Thirdly, *graduation programmes may also stand in conflict with improvements in ECD outcomes*. An increase in economic activity for adult caregivers can lead to an increase in the combined burden of paid and unpaid work, thereby presenting a trade-off between economic gains and caregiving practices (Roelen 2015). This trade-off is highly gendered, with women generally being primary caregivers (Chopra & Zambelli 2017). Particularly when programmes seek to engage women, the risk for positive economic effects to come at the expense of care for particularly young children may be heightened.

Finally, *structural barriers may impede the potential for graduation programmes to play a positive role*. Absence of infrastructure and basic services can obstruct improvements in ECD outcomes despite economic strengthening or behaviour change at the household level. For example, lack of clean water due to drought or pollution hampers caregivers' abilities to observe sanitation practices and thereby secure good nutrition and health outcomes (Roelen, Devereux *et al.* 2017a).

3 METHODOLOGY

This study aims to offer a comprehensive overview of evidence, primarily guided by methodology for systematic reviews. A review protocol based on the PICO (participants, intervention, comparison, outcomes) and PRISMA checklists (Møller & Myles 2016) underpinned the search strategy and review of evidence. However, practical constraints—notably time and budget—have meant that we were not able to fully test and register the protocol with PROSPERA¹ and that we could not ensure a fully exhaustive search. As such, we do not claim this study to be a systematic review in its purest form. Nevertheless, we are confident that the assessment that is offered in this article is reflective of the overall state of the evidence with respect to graduation programming and its role in ECD.

3.1 Search strategy

The question of interest that underpins this review is: *What is the impact of graduation (or comprehensive economic strengthening programmes) on early childhood development?*

¹PROSPERO is an international database of prospectively registered systematic reviews in health and social care.

The inclusion of studies is guided by various criteria. Firstly, they need to cover interventions that can be understood as graduation programmes, or that constitute economic strengthening programmes with at least three of five components of graduation programmes (that is, cash transfers; asset transfers; access to savings and credit; training; coaching). Secondly, studies need to cover interventions that target those living in poverty or extreme poverty (commonly referred to as ‘ultra-poor’). Thirdly, they need to include primary findings of impacts or programme effects with respect to at least one component of the Nurturing Care framework (that is, nutrition; health; safety and security; responsive caregiving; and early learning). We also include papers that focus on education outcomes more broadly. Finally, we are inclusive in terms of the methodologies that studies employed, allowing for quantitative studies based on experimental and quasi-experimental design, quantitative studies with or without comparison groups, qualitative studies and studies with mixed methods approaches.

Six relevant databases were searched: IBSS; ASSIA; PROQUEST Dissertations & Theses Global; Sociological Abstracts; The Campbell Library: The Campbell Collaboration; and Proquest. We also searched websites and resources of sixteen donor agencies, international NGOs (non-governmental organisations) and international research partnerships that have a strong presence in generation of evidence with respect to social protection and graduation programmes. They include USAID Development Experience Clearinghouse; Department for International Development (UK); UNICEF Evaluation Database; United Nations Development Programme; World Bank Group Open Knowledge Repository; International Labour Organization (ILO, LaborDoc Library); UNICEF—Innocenti Office of Research; African Development Bank; Asian Development Bank; Inter-American Development Bank; Save the Children; Innovations for Poverty Action; Transfer Project; African Child Policy Forum; and Food and Agriculture Organization. Finally, we also undertook internet searches using Google Scholar and mined repositories held by 3ie; British Library for Development Studies; Oxfam: Policy and Practice; Social Science Research Network; Center for Social Protection (Institute of Development Studies, Sussex); Oxford Policy Management; Partnership for Economic Inclusion, and ECD Action Network. A citation search of the papers retained from the electronic database search was carried out using the Citation Indexes from Science Direct and Google scholar citation index.²

²Key search terms can be made available on request.

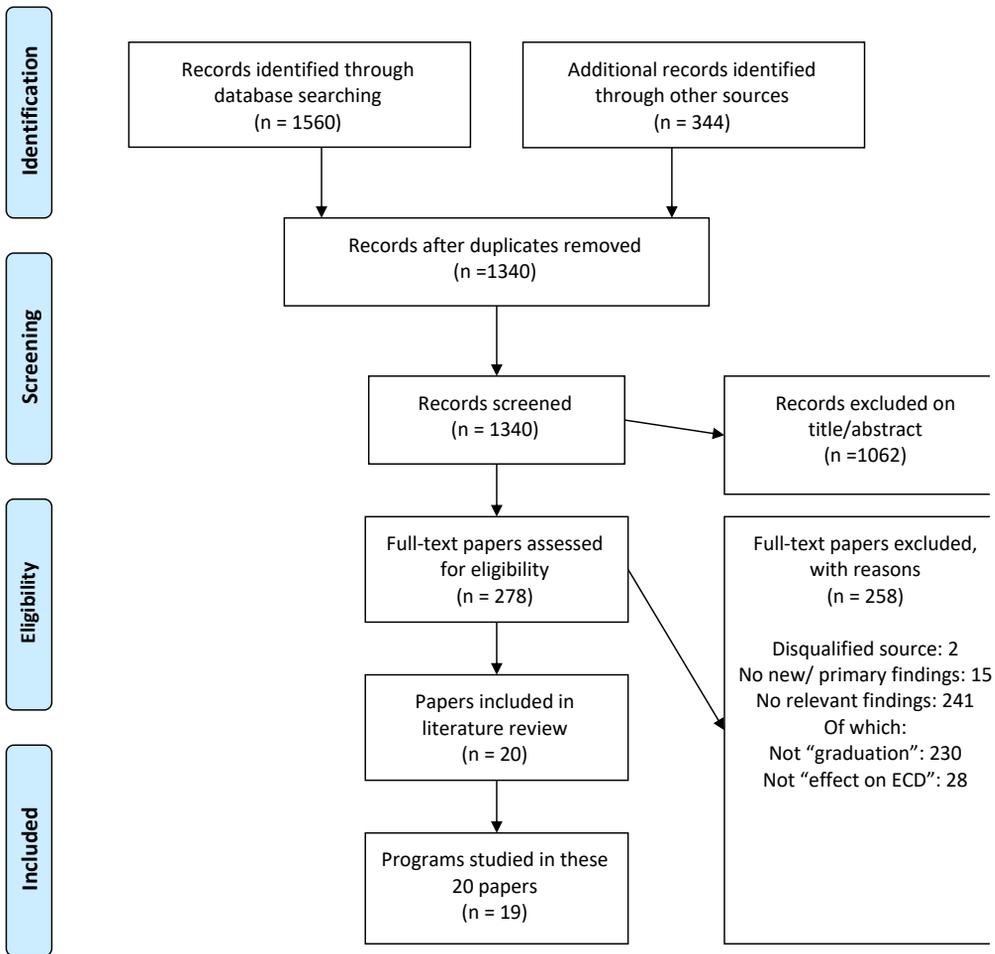


Figure 1. PRISMA diagram.

3.2 Search and screening process

The search and screening process is depicted in a PRISMA flow diagram in Figure 1.

A first search returned roughly 1,900 records. After screening on the basis of titles and abstracts, 278 papers remained for more in-depth screening. Programme design sections of all 278 papers were assessed to see if they fulfilled the inclusion criteria.

Firstly, screening considered whether the interventions constituted a graduation programme or a programme that included at least three of five components of graduation programmes. As such, examples of interventions (and corresponding papers) that were disqualified in this step include the Urwaruka Rushasha programme in Burundi and the GRAD (and related PSNP) programme in Ethiopia.

The Urwaruka Rushasha programme in Burundi combined village savings and loans associations and family-based interventions, and was analysed in Annan *et al.* (2013) for its effect on ECD (among other things). This paper was included in the initial screening given its focus on ECD and the intervention's similarities to a graduation programme. However, further screening revealed that only two out of five programme components were included, namely access to savings and coaching or mentoring criteria. Similarly, a paper on the GRAD programme in Ethiopia passed the initial screenings due to the intervention being described as premised on the graduation model and the evaluation including information on childhood nutrition. However, the programme did not appear to combine more than two out of five programme components in any of the implementation sites at any given time (Gray *et al.* 2015, USAID/ Care 2017).

Secondly, the papers were searched for any of the five components of the Nurturing Care framework, education, children or infants. When children or infants showed up in search results, studies were assessed against the inclusion of outcome indicators of interest, namely nutrition, health, safety and security, responsive caregiving, early learning and education. This criterion meant that some studies were dropped from the review of studies. For example, while Hashemi and Umaira (2011) and Jasper *et al.* (2016) provide important background information and general findings of the CFPR and CLP programmes in Bangladesh respectively, they did not include substantial findings in relation to Nurturing Care. We do include these types of studies in the exploration of pathways to impact.

Finally, studies had to hold substantial findings that were relevant for children in the age bracket of interest, namely 0–5 years. As a result of this criterion, the only study that looked at the impact of a graduation programme on children's mental health was dropped as it focused on children aged 10–15 years (Ismayilova *et al.* 2018).

Processes of triangulation and verification sought to ensure the robustness of the search and review. One author coded all studies in NVivo against the inclusion criteria. The second author reviewed the coding of these studies, ensuring that all criteria were met. Further verification against inclusion criteria and assessment of quality of studies was supported by the use of data extraction forms. Data extraction forms were filled in for all studies, outlining the intervention, study design and main findings in relation to outcomes of interest and pathways to outcomes.

3.2 Search results

This search strategy provided us with a relatively small set of studies, namely twenty papers covering nineteen programmes across nine countries (see Table 1). Various papers speak to the same programme, but focus on different phases or use different data.³

³We count multiple phases of the same programme as one programme.

Table 1. Overview of programmes and reports included.

Country	Programme	Programme duration	Programme components beyond livelihoods	Target group (sex)	Author(s), year	Study design
<i>Bangladesh</i>	CFPR I	24 months	social development training	women	Matin et al. 2008	quantitative— with control group + qualitative
	CFPR II	24 months	social development training	women	Raza & Van de Poel 2016	quantitative—RCT
	CFPR, STUP II	18 months	social development training	women	Holmes <i>et al.</i> 2010	qualitative
	CLP-1	18 months	social development training	women	HTSPE Limited 2011	quantitative— with rolling baseline + qualitative
	CLP	18–24 months	social development training plus complementary nutrition-specific interventions	women	Nisbett <i>et al.</i> 2016	quantitative— experimental design + qualitative
	EEP (Shiree)	18–24 months	social development training plus complementary nutrition-specific interventions	women	Nisbett <i>et al.</i> 2016	quantitative— experimental design + qualitative
	UPPR	18–24 months	nutrition-specific interventions	women	Nisbett <i>et al.</i> 2016	quantitative— experimental design + qualitative
<i>Burundi</i>	Concern Worldwide	24 months	health and nutrition training	mixed	Devereux <i>et al.</i> 2015	quantitative— experimental design + qualitative
<i>Ghana</i>	GUP	24 months	health and nutrition training	mixed	Banerjee <i>et al.</i> 2017	quantitative—RCT
<i>Haiti</i>	CLM	18 months	life skills coaching, nutrition and sanitation training, direct health and education support	women	Huda & Simanowitz 2010	quantitative— longitudinal data + qualitative
				women	Pain <i>et al.</i> 2015	quantitative— longitudinal data
<i>India</i>	Bandhan ‘Targeting the Hard Core Poor’ pilot	18 months	social development training	women	Banerjee <i>et al.</i> 2011	quantitative— experimental design

Table 1 Continued.

Country	Programme	Programme duration	Programme components beyond livelihoods	Target group (sex)	Author(s), year	Study design
				women	Banerjee <i>et al.</i> 2016	quantitative—experimental design
	SKS pilot	18 months	health and sanitation training	women	Sengupta 2013	qualitative
				women	Bauchet <i>et al.</i> 2015	quantitative—RCT
				women	Jawahar & Sengupta 2012	qualitative
Kenya	BOMA/ REAP	24 months	N/A	women	The BOMA Project 2012	quantitative—longitudinal data
		24 months	N/A	women	Gobin <i>et al.</i> 2016	quantitative—RCT
Pakistan	SSN-TUP	30 months	health visits and training	mixed	IDS 2011	quantitative—with comparison group
Rwanda	Concern Worldwide	30–42 months	life skills coaching and mentoring	mixed	Devereux & Sabates 2016	quantitative—experimental design plus qualitative
	FXB	36 months	nutrition and sanitation training, psychosocial support	mixed	Harhay <i>et al.</i> 2017	quantitative—longitudinal data
Uganda			nutrition and sanitation training, psychosocial support	mixed	Harhay <i>et al.</i> 2017	
Multiple (6 countries)	Multiple (6 programmes)	Varies	social development, health and nutrition training	women/ mixed	Banerjee <i>et al.</i> 2015	quantitative—RCT

Notes: CFPR: Challenging the Frontiers of Poverty Reduction; CFPR, STUP: Challenging the Frontiers of Poverty Reduction, Specially Targeted Ultra Poor; CLP: Chars Livelihoods Programme; EEP: Economic Empowerment of the Poorest; UPPR: Urban Partnership for Poverty Reduction; GUP: Graduation from Ultra Poverty; CLM: Chemin Lavi Miyo; SKS: Swayam Krishi Sangam; REAP: Rural Entrepreneur Access Project; SSN-TUP: Social Safety Net—Targeting Ultra Poor; FXB: Francois-Xavier Bagnoud.

Two papers discuss findings of multiple programmes in detail, either within one country or across countries (Nisbett *et al.* 2016, Harhay *et al.* 2017). One additional paper provides a multi-country evaluation of six interventions⁴ (Banerjee *et al.* 2015).

In presenting findings across studies, we count findings of different interventions—either within one country, or in multiple countries—as a separate study. Findings presented in Nisbett *et al.* (2016) are therefore counted as three studies and findings provided in Harhay *et al.* (2017) are counted at two studies. Given the lack of discussion of impacts on children for each intervention included in Banerjee *et al.* (2015), we present findings from the pooled estimates across all interventions and count findings as one study. This brings the total tally to twenty-three studies.

The overview of papers and interventions included in this review clearly shows that much of the evidence originates from South Asia, with multiple studies focusing on programmes in Bangladesh, India and Pakistan. Studies on interventions from Africa, namely Burundi, Ghana, Kenya, Rwanda and Uganda, constitute the second largest source of information. Haiti is best represented among countries from Latin America and Caribbean, with Honduras and Peru included in combined evaluation of the multi-country study.

All interventions are time bound, but programme duration varies between 18 months and 42 months. The large majority of interventions include an element of training, coaching or accompaniment that speaks to issues beyond economic strengthening and that may link to ECD beyond tackling poverty. This includes a range of social development training, life skills building and health, nutrition and sanitation training. In a few exceptional cases, this has also included direct provision of education and health services (for example, in Haiti) and psychosocial support (for example, in Rwanda and Uganda). Many programmes specifically target women, often in recognition of their disadvantaged position and disproportionate representation among the ultra-poor.

4. FINDINGS ON ECD OUTCOMES

An overview of findings in Table 2 shows that the body of evidence regarding the role of graduation programmes in ECD is very limited, particularly in relation to outcome areas beyond nutrition and health. We particularly looked at indicators or findings in the domains of Nurturing Care that are directly relevant to young children. Hence, we

⁴One intervention was implemented in each country. Countries included Ethiopia, Ghana, India, Pakistan, Peru and Honduras.

Table 2. Overview of findings.

Programme	Type of impact	Nutrition	Health	Safety and security	Responsive caregiving	Early learning	Schooling	Author(s), year
<i>Bangladesh</i>								
CFPR I	intermediate outcome	none	none				none	Matin <i>et al.</i> 2008
CFPR II	intermediate outcome	positive limited	none limited				limited	Raza & Van de Poel 2016
CFPR, STUP II CLP-1	intermediate outcome	limited	positive	positive				Holmes <i>et al.</i> 2010
CLP	intermediate outcome	none	positive					HTSPE Limited 2011
EEP (Shiree)	intermediate outcome	none	none					Nisbett <i>et al.</i> 2016
UPPR	intermediate outcome	none	none					
<i>Burundi</i>								
Concern Worldwide	intermediate outcome	positive					positive	Devereux <i>et al.</i> 2015
<i>Ghana</i>								
GUP	intermediate outcome	none						Banerjee <i>et al.</i> 2017
<i>Haiti</i>								
CLM 2010	intermediate outcome	positive					positive	Huda & Simanowitz
	intermediate outcome						positive	Pain <i>et al.</i> 2015

do not incorporate findings with respect to intermediate indicators such as handwashing behaviour but we do consider health-seeking behaviour in relation to when children are ill. We distinguish between impacts on intermediate and outcome indicators in the table.

The domain with the largest body of evidence is nutrition. The majority of studies looked at some indicator related to this domain, namely eighteen out of twenty three. Health is the second largest domain with thirteen out of twenty-three studies having looked at intermediate or outcome indicators for children's health. Only one study considered an aspect of safety and security of children. No studies included a focus on either responsive caregiving or early learning. A focus on education for children in the schooling system is much more prevalent; eleven out of twenty-three studies consider primary school enrolment or attendance.

We discuss findings within each domain in more detail.

4.1 Nutrition

The impact of graduation programmes on the domain of nutrition is mixed. The majority of studies that included a focus on nutrition report positive effects; twelve out of eighteen studies. These effects primarily pertain to indicators of food security. Six out of eighteen studies report no or very limited impact. These findings mostly pertain to nutritional outcomes for children.

Evidence generally suggests greater availability of food for children as expressed by the number of meals that children eat daily (for example, Concern Worldwide in Burundi), children not going to bed without any food or hungry (for example, BOMA/REAP in Kenya) and children not skipping meals (for example, pooled results from programmes in Ethiopia, Ghana, Honduras, India, Pakistan and Peru). (Devereux *et al.* 2015, The BOMA Project 2012, Banerjee *et al.* 2015, Banerjee *et al.* 2011). Programmes have also been found to lead to greater intake of more nutritious foods (for example, for Bandhan's 'Targeting the Hard Core Poor' and SKS in India, Concern Worldwide in Burundi) (Banerjee *et al.* 2011, Bauchet *et al.* 2015, Devereux *et al.* 2015).

However, positive findings with respect to food security do not hold for all programmes. In Bangladesh, none of the three programmes that were complemented with nutrition-specific interventions—CLP, EEP and UPPR—led to significant changes in knowledge and attitudes regarding IYCF or behaviour change in relation to dietary diversity or meal frequency (Nisbett *et al.* 2016). In Ghana, GUP did not have any impact on children (or adults) skipping meals (Banerjee *et al.* 2017).

Experiences in West Bengal with Bandhan's 'Targeting the Hard Core Poor' programme indicate that positive effects for children may sometimes be achieved in

the medium term as opposed to the short term; while there was no significant impact on no children having skipped any meals immediately at the end of the programme, the probability for no children in the household skipping any meals had reduced significantly in treatment households compared to control households 5.5 years after the programme ended (Banerjee *et al.* 2016). Findings from a programme in Rwanda, however, suggest an opposite trend. The Concern Worldwide programme increased the number of meals consumed by children per day during the first year of the programme (during which families received regular cash transfers) and improved dietary diversity for children, but some of these gains were reversed in the second and third years of programme participation (Devereux & Sabates 2016).

Fewer studies have considered impacts on nutritional outcomes using anthropometric measures, most of which are focused on Bangladesh. Using data on weight, height and age, Raza and Van de Poel (2016) considered the impact of CFPR II in Bangladesh on standard measures of malnutrition for children under 5, namely wasting (height-for-weight; a measure of acute malnutrition), stunting (height-for-age, a measure of chronic malnutrition) and underweight (weight-for-age; a measure of acute and chronic malnutrition). CFPR II significantly reduced malnutrition among children in participant households; the likelihood of wasting reduced by 8 percentage points and the likelihood of underweight reduced by 19 percentage points. Part of this effect is explained by the programme significantly increasing the duration of breastfeeding among participant households. These positive effects stand in contrast to findings regarding the first phase of CFPR (CFPR I), which did not appear to have a meaningful impact on children's nutritional outcomes (Matin *et al.* 2008).

Other studies that reported findings with respect to nutritional outcomes confirm a mixed picture. Also in Bangladesh, HTSPE Limited (2011) report positive impacts on stunting but negative effects on wasting and underweight for children of participants in CLP. Authors reflect on the difficulties of detecting change in nutritional status over a short period of time due to seasonal changes and episodes of illness (*ibid.*). They also did not detect significant change in prevalence of anaemia and haemoglobin levels (*ibid.*). A programme variation that added nutrition-specific interventions to the model of CLP also did not find any significant reduction in malnutrition as a result of programme participation (Nisbett *et al.* 2016). The same results were found for two other programmes in Bangladesh that incorporated nutrition-specific interventions, namely EEP (Shiree) and UPPR (*ibid.*). A study in Haiti found that the prevalence of wasting among children in participant households was considerably lower after programme end compared to the situation at baseline (Huda & Simanowitz 2010).

4.2 Health

Graduation programmes' effects in the domain of health are modest. Out of thirteen studies that consider health, five report unequivocally positive results; two studies point to limited or conflicting findings; six studies find no impact. Studies consider intermediate indicators, such as health-seeking behaviour for when children get ill and immunisation of children; other studies look at changes in morbidity and health outcomes for young children.

Findings in relation to health behaviour are mostly positive. Participants in the Concern Worldwide programme in Rwanda were significantly more likely to seek care from health workers or health centres (as opposed to traditional healers or applying self-medication) when a child in their household is sick compared to the control group (Devereux & Sabates 2016). In India, Bandhan's 'Targeting the Hard Core Poor' pilot was found to have a positive effect on children being immunised, as reported by caregivers (Banerjee *et al.* 2011, Sengupta 2013). Similarly, proportions of children in FXB households in Rwanda and Uganda with reported vaccinations were significantly higher at the end of the programme than at the beginning (Harhay *et al.* 2017).

Findings in relation to health outcomes are mixed. Some qualitative and quantitative studies find reductions in the prevalence of diarrhoea among children, often linked to better sanitation practices, use of latrines and access to clean(er) drinking water (for example, CLP in Bangladesh, FXB in Rwanda and Uganda) (HTSPE Limited 2011, Harhay *et al.* 2017). The proportions of children in FXB households in Rwanda and Uganda having symptoms of kwashiorkor was significantly lower at the programme's end compared to before the start of the programme (Harhay *et al.* 2017).

However, other studies point towards lack of impact, often associated with lack of access to safe drinking water, unsanitary latrines and poor sanitary practices, such as handwashing. Three programmes in Bangladesh—CLP, EEP and UPPR—did not lead to reductions in the prevalence of child illness, including fever, cold, shortness of breath and diarrhoea (Nisbett *et al.* 2016). Similarly, CFPR in Bangladesh did not reduce the likelihood of children contracting an infectious disease (Raza & Van de Poel 2016).

4.3 Security and safety

Only one study considered an aspect of security and safety that is directly related to children. In Bangladesh, HTSPE Limited (2011) find significant impacts on birth registration of children. The report does not elaborate on the reasons for this impact, and whether this is a result of better information about how to register a child's birth and the benefits that derive from registration, or whether there were more explicit

efforts within the programme to encourage caregivers to register their children. It does point towards the importance of birth registration for securing children's rights, including access to basic health and education services. Nevertheless, despite its importance, it could be argued that this is not an appropriate indicator to signify progress in a domain that refers to keeping children safe and secure.

4.4 Responsive caregiving

We found no studies that assessed the effect of graduation programmes in responsive caregiving. Reflections on how improved economic conditions allow for better caregiving of children are present in many studies, but these relate to outcomes in areas of nutrition, health and education and don't provide information about the specifics of parenting practices and caregivers' behaviour in response to young children showing signs of distress or need.

4.5 Early learning

Similarly, no studies included any assessments of the role of graduation programmes in early learning. We have no information about whether programmes play a role in changing children's access to early learning—either at home or through basic services—or whether children's cognitive skills changed as a result of their caregivers' participation in interventions.

By contrast, a considerable proportion of studies considers the impact of graduation programmes on enrolment and attendance of primary school. Effects are mostly positive; eight out of eleven studies having looked at the effects on schooling find positive effects. In Kenya, the proportion of school-aged children of participants in BOMA/ REAP who were enrolled school was 78 per cent higher after three years of programme participation compared to when they started (The BOMA Project 2012). Similar positive findings hold for FXB in Rwanda and Uganda (Harhay *et al.* 2017) and CLM in Haiti (Huda & Simanowitz 2010, Pain *et al.* 2015). In Pakistan, a larger proportion of children aged 5–10 years old in former SSN-TUP households were identified as students compared to other children in this age category (IDS 2011). In Burundi, the Concern Worldwide programme significantly increased attendance at primary school among children in participating households (Devereux *et al.* 2015).

5 FINDINGS ON PATHWAYS

In line with the conceptual framework presented above, we consider the pathways through which programmes have been found to affect children, or what hampered the achievement of positive impacts.

5.1 Income effect

Greater availability of income and access to material resources proves a key contributing factor to improved ECD outcomes. These effects occur through programmes' direct provision of cash transfers, assets and other in-kind transfers as well as through households' income-generating activities. Investments in asset holdings, participation in savings facilities and livelihood diversification contribute to greater income security, in turn improving the ability to secure children's basic needs. Huda and Simanowitz (2010) noted that female participants of CLM in Haiti feel that they are better mothers because of the economic empowerment afforded by the programme.

In Kenya, additional income as a result of entrepreneurship and income-generating activities was considered the main pathway through which BOMA/REAP participants were able to improve living conditions and well-being, including improved food security and school enrolment of their children (The BOMA Project 2012). In Burundi, caregivers reported investing additional income generated as a result of their participation in the Concern Worldwide programme in their children's schooling (Devereux *et al.* 2015). A similar finding was observed in relation to CLM in Haiti, where the large increase in school attendance was primarily explained by having more income; caregivers have always considered education to be of great importance, but were never able to afford to send their children to school (Huda & Simanowitz 2010). Additional material support, such as health insurance cards and establishment of kitchen gardens, also positively contributed to health-seeking behaviour and dietary diversity in Burundi (Devereux *et al.* 2015).

By the same token, lack of adequate income generation also emerged as a barrier for affecting positive change. In Rwanda, the reversal of positive trends in relation to number of meals consumed by children and children's dietary diversity was linked to the programme phase of regular cash transfers having come to an end (Devereux & Sabates 2016). Any gains in income as a result of income-generating activities that were promoted through the programme were lower than the cash transfers received through the programme directly (*ibid*). Against the backdrop of lack of impacts for CLP, EEP and UPPR in Bangladesh, Nisbett *et al.* (2016) suggest that direct provision of cash transfers to mothers (rather than asset transfers that are geared towards

livelihood investment) may be more effective in ensuring that enough additional income for improving nutritional outcomes is available, and that such additional income is spent towards nutrition.

5.2 Training effect

Qualitative and mixed methods studies highlighted the importance of messaging in relation to behaviour change. Various programmes included training and coaching about nutrition, health and sanitation, and studies found this component to contribute to improved conditions in areas of nutrition and health.

In relation to Bandhan's 'Targeting the Hard Core Poor' pilot in West Bengal in India, Sengupta (2013) finds that most participants retained and internalised messages that were provided through the programme, and points at the transformational potential of coaching. Similarly, in relation to Concern Worldwide's programme in Burundi, Roelen and Devereux (2018) find that messaging is linked to positive changes in practices such as handwashing, and highlight the need for repeated messaging to avoid a levelling off or reversal of positive effects. Raza and Van de Poel (2016) make a similar point in relation to CFPR II in Bangladesh, highlighting that repeated exposure to messages is likely to have led to instilment of such lessons and ultimately to behaviour change. So-called 'demonstration effects' may lead to positive spillover effects as non-participants in the same communities adopt similar practices (Raza & Van de Poel 2016, Roelen & Devereux 2019).

Ways in which training and messaging are delivered prove vital for their effectiveness. High caseload, infrequent and suboptimal number of home visits and limited intensity of behaviour change messaging were considered important reasons why three programmes in Bangladesh—CLP, EEP and UPPR—did not effect behaviour change, and ultimately did not have any positive impacts on child nutrition (Nisbett *et al.* 2016). As noted by Harhay *et al.* (2017) in relation to FXB programmes in Rwanda and Uganda, strong and high-quality social relationships between staff and participants is likely to be a key factor in determining effectiveness.

5.3 Work and care trade-off

Various studies lend evidence to the tension between work and care, and how engagement in graduation programmes may make it more difficult for caregivers to adequately care for their children. This pertains directly to involvement in programmes and the subsequent additional demands on adults' time as well as more indirectly to changes in participant households' living conditions as a result of programme participation.

In Ghana, rearing of livestock that was promoted through GUP did not substitute for other income-generating activities, such as farming and microenterprises, but were considered to constitute additional ways of earning income (Banerjee *et al.* 2017). This inevitably holds implications for time use. Participants in Bandhan's 'Targeting the Hard Core Poor' pilot in West Bengal in India increased their amount of time spent on paid work by one hour per day on average (Banerjee *et al.* 2011). In Bangladesh, female participants in CFPR STUP II reported that participation increased their overall workload, although they did not consider this to be problematic (Holmes *et al.* 2010). An evaluation of BOMA/ REAP in Kenya highlighted that significant changes in women's time use away from leisure and household activity towards remunerative petty trade presents the main pathway through which positive impacts on income, savings and asset accumulation are achieved (Gobin *et al.* 2016). It is unclear, however, how time spent on child care was conceptualised, and how this is affected by the shifts in time allocation. Nevertheless, lack of time was considered to form a crucial barrier for female participants in three other graduation programmes in Bangladesh—CLP, EEP and UPPR—to prepare more nutritious foods and diversify diets for children, which in turn partly explains the lack of impact on nutritional outcomes (Nisbett *et al.* 2016).

Implications for time and care may also result from greater responsibilities for child care following economic improvements. In Kenya, BOMA/ REAP participants were found to care for 1.3 non-biological children more on average after three years of programme participation compared to intake. The authors attribute this increase to improved economic conditions within participating households and the ability to afford basic needs for children (The BOMA Project 2012).

The tension between paid work and care is further illustrated by findings regarding the heterogeneity of programme success. Analysis on the Concern Worldwide programme in Rwanda finds that households with a high dependency ratio are less likely to do well within the programme, and more likely to be classified as 'slow movers' (Devereux & Sabates 2016). Similarly in Haiti, CLM participants with fewer children under the age of 5-years-old were found to be more likely to make sustained progress after the programme's end (Pain *et al.* 2015). Findings in Rwanda offer evidence for the gendered nature of graduation trajectories as female-headed households are less likely to stay on an upwards trajectory compared to male-headed households (Sabates-Wheeler *et al.* 2018).

One positive aspect of programmes in relation to the balance between work and care is their impact on family planning. In Haiti, female CLM participants reported being better able to plan their pregnancies as a result of continued messaging and follow-up by case managers. Greater control over the decision to have another child was considered to be empowering and to be positively associated with moving out of

poverty and supporting children (Huda & Simanowitz 2010). Behavioural changes regarding family planning were also observed elsewhere, such as in relation to Concern Worldwide in Burundi (Devereux *et al.* 2015).

5.4 Structural factors

Studies included in this review highlight the importance of structural factors in effecting change, as well as for explaining why impacts may be lower than envisaged. In relation to the SKS programme in India, Bauchet *et al.* (2015) find that impacts on employment were dampened by large rises in wages for unskilled labour, which benefited participants in the control group and blunted the effect of the programme. Also in India, findings about positive outcomes of Bandhan's 'Targeting the Hard Core Poor' programme with respect to health practices should be understood in light of widespread health messaging by governments (Banerjee *et al.* 2011)

In other cases, studies observed increased knowledge and more positive attitudes in relation to social issues such as schooling and responding to domestic violence, but that such attitudes did not necessarily translate into behaviour change. In India, the practice of dowry payments prevented girls from being enrolled in school; educated girls would need to marry educated boys, thereby driving up the dowry (Jawahar & Sengupta 2012). In Bangladesh, women chose not to stand up to local authorities or to go to the police in cases of violence, despite having discussed how to take positive action in social awareness trainings (Holmes *et al.* 2010).

Various studies highlighted that appropriate infrastructure and services need to be in place to deliver and follow up on messaging, and to ensure sustainability of positive behaviour change. In Bangladesh, HTSPE Limited (2011) note that the withdrawal of satellite clinics and the end of social development groups that were integral to the programme lead to a reversal of positive gains made, such as with respect to family planning.

Environmental factors may also hamper the achievement of positive outcomes. In Bangladesh, female participants in EEP struggled to gain access to safe drinking water due to distance, risk of floods and high arsenic and iron content of drinking water (Nisbett *et al.* 2016). Alternatives were too difficult to obtain or simply unavailable (*ibid.*). Most programmes do not engage with structural factors in their design and implementation. The CLM programme in Haiti was exceptional in its acknowledgement of lack of affordable and quality health and education services and the barriers that this would pose for its participants in improving health and educational outcomes. Tackling such barriers were integral components to the programme and included the provision of free health services, offering tuition waivers, negotiating lower school fees and—in one area—building a school and hiring a teacher.

Health-seeking behaviour and regular school attendance drastically increased among children in CLM households (Huda & Simanowitz 2010).

On the positive side, structural changes in basic services, such as education, may also result in improvements in children's outcomes regardless of programme participation. A lack of impact on primary school enrolment for children in households participating in the Concern Worldwide programme in Rwanda was explained by widespread improvements in the schooling system and the provision of free basic education. As such, primary school enrolment rates increased for all children included in the study, regardless of whether their families participated in the programme or not (Devereux & Sabates 2016). A similar observation was made in the two-country study of FXB programmes in Rwanda and Uganda, noting that greater positive changes over the course of the intervention period for programme participants in Rwanda (compared to Uganda) may be explained by generally larger improvements in the health system in the country (Harhay *et al.* 2017).

6 DISCUSSION

The findings allow for various reflections in terms of graduation programmes and their role in affecting ECD.

The review in this article supports the notion that graduation programmes have the potential to positively address ECD outcomes. This is evidenced by positive findings in areas of nutrition and health. However, the majority of positive effects pertain to intermediate indicators, such as food security, dietary diversity, immunisation and health-seeking behaviour in relation to children.

Positive impacts are a result of both income and training effects. Findings from across studies included in this review point towards strong synergy effects. Qualitative and mixed methods studies in particular (for example, in Bangladesh, India, Burundi) highlight that the combination of new knowledge and the availability of economic resources allows for putting messages into practices, affording experience and the possibility for internalising new practices. This holds especially true for practices that are important for children, including feeding and sanitation practices. In Bangladesh, for example, positive findings with respect to intake of iron were explained by messaging going hand-in-hand with free provision of iron supplements and participants gaining positive experiences as a result of behaviour change (Nisbett *et al.* 2016). Similarly, the increase in income coupled with recommendations from nutrition workers led to many participants purchasing water-purifying filters (*ibid.*).

Notwithstanding these positive effects, programme effectiveness is more ambiguous in terms of children's outcomes in nutrition and health. Similarly, programmes

positively affect enrolment in and attendance of primary school, but studies do not provide an indication of potential effects on learning outcomes. These findings mirror evidence from the wider evidence base on social protection. Cash transfer programmes, for example, have now widely been found to strengthen intermediate steps towards improved outcomes for children, such as greater availability and diversity of diets and access and take-up of health and education services (Bastagli *et al.* 2016, de Groot *et al.* 2017). Nevertheless, they largely fall short in terms of affecting children's outcomes, such as malnutrition and learning (*ibid.*). Cash transfer schemes' narrow focus on lifting income constraints is considered one of the main reasons for narrow impacts, and 'cash plus' programmes aim to address this shortcoming by complementing income support with further in-kind support, behaviour change communication or linkages to other services (Roelen, Devereux *et al.* 2017b). With many graduation programmes already including training and coaching components, often with a focus on nutrition, health and sanitation, one might have expected more positive effects.

Various explanations for limited impacts emerge from the review.

Firstly, data on time use and additional demands on time, particularly for women, suggests that programmes compound the balancing act of combining paid work with forms of unpaid work and care. Spending time on income-earning activities, close to as well as away from home, either result in reallocation of time away from unpaid (care) work or impinge on caregivers' time for rest and recuperation. In some cases, this goes hand-in-hand with increased caregiving demands as children join households due to improved economic conditions. The tension between work and care, particularly for women, has been widely documented but also remains an oversight in many economic empowerment programmes, including those focused on women's economic empowerment (Folbre 2019). As this review shows, this tension has implications for children, and undermines the positive effects of graduation programmes on ECD.

Secondly, delivery matters. Studies provide testimony to the importance of continued intensive and tailored messaging grounded in trusting and respectful relations. In Burundi, behaviour change in family planning and other health and sanitation practices were found to taper off when messages started to focus more heavily on how to build and strengthen income-generating activities (Roelen & Devereux 2019). In Bangladesh, infrequent and lack of intensive engagement with case workers limited programme impacts (Nisbett *et al.* 2016). Findings also point towards the need for careful and context-specific design. Studies of programmes in Bangladesh highlight the need for to changes to the programmes' theories of change that afford women greater control over their time and IYCF practices (Nisbett *et al.* 2016).

Thirdly, wider economic, cultural and infrastructural factors can serve as an enabling environment, but more commonly constitute an obstructive space. Lessons show that general improvements in basic service provision can facilitate and positively

reinforce programme impacts, particularly if such services are geared towards children. By the same token, lack of health and education services and basic infrastructure, such as availability of clean water, pose barriers to impact that are difficult to overcome through graduation programmes alone. Cultural norms and traditions in relation to gender and child protection can also impede the link between increased knowledge to changed behaviour.

This review also highlights large knowledge gaps. Evidence of the role of graduation programmes in areas of responsive caregiving and early learning does not exist and information is scant in relation to safety and security. This skewed availability of evidence is not necessarily surprising. Greater evidence in areas of nutrition, health and education reflects ‘graduation criteria’ that various programmes adopt to assess whether participants have made adequate progress in areas that are deemed vital for graduation from poverty and social development. These commonly include food security (for example, SKS in India; CFPR and CLP in Bangladesh), having access to clean drinking water and a sanitary latrine (for example, CLP in Bangladesh) and children of school-going age being enrolled in school (for example, SKS in India, SSN-TUP in Pakistan) or attending school (for example, CFPR in Bangladesh) (Hashemi & Umaira 2011, IDS 2011, Bauchet *et al.* 2015, Jasper *et al.* 2016.). It is therefore understandable that data collection efforts are geared towards those areas.

7 CONCLUSION

This article provides a review of the state of the evidence regarding the role of graduation programmes in improving ECD. It shows that programmes positively impact intermediate indicators in areas of nutrition and health, and points towards their potential to positively affect nutritional and health outcomes. The combined provision of support that is geared towards economic strengthening and behaviour change allows for opportunities for new and improved practices in relation to ECD to take hold. We also find substantial barriers to change, including the creation or reinforcement of tension between work and care, shortcomings in design and delivery and the lack of an enabling environment. The issue of work and care is particularly problematic as it has been mostly overlooked in programme design and delivery up to this point.

The review also highlights large knowledge gaps and a skewed evidence base in relation to the five areas of ECD as highlighted by the Nurturing Care framework. A considerable body of literature speaks to the domains of nutrition and health, and provides information in relation to schooling for children of primary-school age.

No evidence, or very scant evidence, is available for the three other areas of safety and security, responsive caregiving and early learning.

These evidence gaps and the lack of acknowledgement regarding the tension between work and care suggest that enhancement of impacts on ECD requires a recasting of children's needs and priorities within graduation programmes. While a focus on children may not lie at the core of what graduation programmes aim to achieve—economic strengthening and poverty reduction at household level—long-term success of these interventions ultimately hinges on their ability to break the intergenerational cycle of poverty. Bringing the interests of children to the fore in these programmes requires a holistic understanding of ECD; while securing adequate nutrition and health may be perceived as constituting children's primary needs, the Nurturing Care framework and wider literature on ECD firmly attest to the importance of securing needs in all domains—including safety and security, responsive caregiving and early learning.

Studies provide testimony to the importance of intensive and tailored messaging in order to achieve positive impacts across areas of ECD, particularly in combination with income and material support. In addition, they attest to the need for training and coaching to be grounded in trusting and respectful relations, which requires regular and meaningful interactions. Policy recommendations across studies recommend more frequent and more intensive interactions with case workers. Such findings go against the grain of current debates in graduation programming, which are heavily focused on disentangling the comparative contribution of individual programme components and establishing a minimal package of support in order to reduce costs and allow for scale-ability of programmes.

Finally, the mix of evidence also lends support to the now widely accepted notion that evaluations require mixed-methods approaches to gain insight into whether there was any attributable impact and why, or why not. The majority of the quantitative evaluations included in this review provided little insight into potential pathways to impact, or why such pathways may have been hampered. In contrast, studies premised on mixed-methods approaches offered both estimates of programme impact and explanations for impact or lack thereof.

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