Contextual design choices and partnerships for scaling early child development programmes

Kate M Milner,1,2 Raquel Bernal Salazar,3,4 Sunil Bhopal,5,6 Alexandra Brentani,7 Pia Rebello Britto,8 Tarun Dua,9 Melissa Gladstone,10 Esther Goh,11 Jena Hamadani,12 Rob Hughes,5,13 Betty Kirkwood,1 Maya Kohli-Lynch,1,14 Karim Manji,15 Victoria Ponce Hardy,1 James Radner,16,17 Muneera Abdul Rasheed,18 Sonia Sharma,19 Karlee L Silver,20 Cally Tann,21 Joy E Lawn1

ABSTRACT
Translating the Nurturing Care Framework and unprecedented global policy support for early child development (ECD) into action requires evidence-informed guidance about how to implement ECD programmes at national and regional scale. We completed a literature review and participatory mixed-method evaluation of projects in Saving Brains®, Grand Challenges Canada® funded ECD portfolio across 23 low- and middle-income countries (LMIC). Using an adapted programme cycle, findings from evaluation related to partnerships and leadership, situational analyses, and design for scaling ECD were considered. 39 projects (5 ‘Transition to Scale’ and 34 ‘Seed’) were evaluated. 63% were delivered through health and 84% focused on Responsive Caregiving and Early Learning (RCEL). Multilevel partnerships, leadership and targeted situational analysis were crucial to design and adaptation. A theory of change approach to consider pathways to impact was useful for design, but practical situational analysis tools and local data to guide these processes were lacking. Several RCEL programmes, implemented within government services, had positive impacts on ECD outcomes and created more enabling caregiving environments. Engagement of informal and private sectors provided an alternative approach for reaching children where government services were sparse. Cost-effectiveness was infrequently measured. At small-scale RCEL interventions can be successfully adapted and implemented across diverse settings through processes which are responsive to situational analysis within a partnership model. Accelerating progress will require longitudinal evaluation of ECD interventions at much larger scale, including programmes targeting children with disabilities and humanitarian settings with further exploration of cost-effectiveness, critical content and human resources.

BACKGROUND
What is needed to support scaling of early child development?
The Sustainable Development Goals and Global Strategy for Women’s, Children’s and Adolescents’ Health (2016–2030) aim to ensure that every child has the opportunity to thrive, or reach their best developmental potential.1 12 The WHO, UNICEF and World Bank ‘Nurturing care for early childhood development: a framework for helping children survive and thrive to transform health and human potential’ (Nurturing Care Framework, NCF) provides a policy framework to support these ambitions (figure 1).3 As well as increased global focus on early child development (ECD), there has been a steady increase in ECD policy uptake with 45% of low- and middle-income countries (LMIC) having national, multisectoral ECD policies.4

However, few LMIC have implemented large-scale ECD programmes, and there are no consistent measures of coverage and quality.1 Hence, to operationalise the NCF, there is increased demand for evidence to inform design, implementation and measurement of ECD programmes at scale.4 6–8

Saving Brains, Grand Challenges Canada (GCC) represents the largest innovation investment in ECD projects in LMIC so far and is a unique opportunity to explore decision processes related to programme design, implementation and scaling in diverse settings.9 Saving Brains was designed to support healthy brain
development for children in the first 1000 days through innovations that prevent brain injury, promote stimulating and responsive environments and protect children from developmental risk factors. Most projects were ‘Seed’ (proof of concept) with 18–24 months’ duration and a minority were ‘Transition to Scale’ (TTS) grants with 2–3 years’ duration and the aim to scale up. All are led by LMIC organisations and are supported by a multi-institutional platform that provides technical and practical support. Saving Brains uses a portfolio-level theory of change to consider pathways to impact (supplementary web appendix figure A). Our evaluation relates to all Saving Brains Seed and TTS projects completed by February 2017 (supplementary web appendices textbox A, tables A and B).

**Objective 1. Describe processes and decision points in an ECD programme cycle for scale-up**

Based on literature in other areas of global child health and ECD as well as findings of Saving Brains portfolio evaluation, we adapted a generic programme cycle and systematically considered key decision points in the process of ECD programme design, implementation and scale-up. Subsequent papers consider monitoring and evaluation, financing, and overall process to scale-up.

The first two papers, including this paper, draw directly on mixed-method evaluation of the Saving Brains portfolio, with case studies from the TTS Saving Brains grants, while other papers build on additional analyses.

**Objective 2. Synthesise findings from the Saving Brains portfolio evaluation related to processes and decision points in ECD programming**

We completed an impact and process evaluation of projects funded by Saving Brains, GCC, between 2011 and 2016. Evaluation was led by a team from the London School of Hygiene & Tropical Medicine in collaboration with the Saving Brains partnership, True Point/Harvard University and the WHO. We used a participatory mixed quantitative and qualitative approach to evaluate the portfolio as whole (box 1). Qualitative themes explored were arranged around key decision points in the programme cycle (figure 2A).

**RESULTS**

**Objective 1. Processes and decisions in an ECD programme cycle for scale-up**

Figure 2A,B describes the processes and decision points in programme design, implementation and scale-up according to previously described methods.

**Objective 2. Findings from the Saving Brains portfolio evaluation related to ECD programming**

Thirty-nine projects were implemented across 23 LMIC between September 2013 and November 2016 including 34 Seed and five larger TTS projects, some of which were being scaled up from previous Seed projects (table 1 and supplementary web appendix table C). Projects were diverse in terms of context,
Global child health: Design and implementation for early child development programmes

Design, content, implementation strategy and size (n=41–2500 participants). A summary of Seed grants is provided in supplementary web appendix table C. Programme decisions for TTS grants which focused on RCEL are summarised in table 1 with further details of individual programme case studies summarised in boxes 1–4.

Partnerships and leadership

Multilevel partnerships for scaling

Qualitative data reflected the importance of partnerships to intervention design and implementation. In Seed projects, implementing teams valued technical expertise in ECD, research, monitoring and evaluation. By contrast, TTS teams already had considerable ECD expertise and were led by local groups with established track records. These partnerships, focused towards scaling, were multilevel and typically built on long-standing relationships with community, government, non-governmental organisation (NGO) and academic institutions (table 1).

Leadership at multiple levels

The importance of leadership both at higher political and lower system levels was emphasised. For example, in Bangladesh, the support of government health workers in motivating workers at clinic level, and facility-level support to mobilise practical resources for implementation at local level during Kangaroo...
Global child health: Design and implementation for early child development programmes

Box 1  Cameroon and Mali case study: scaling up Kangaroo Mother Care (KMC) to help newborns survive and thrive

Context
An established evidence base from high-resource settings demonstrates that developmental care initiated soon after birth can have positive effects on early developmental outcomes among high-risk infants. KMC for low birthweight (LBW) and preterm newborns is an example of an early nurturing care intervention that has the potential to improve survival and to positively impact on short-term and long-term neurodevelopmental outcomes.

Among the Saving Brains portfolio, one Transition to Scale (TTS) project looked specifically at implementation of KMC for small and preterm newborns in a multicontry low-resource sub-Saharan African setting. This built on previous work showing short-term and mid-term benefits on survival, neurodevelopment and mother–infant bonding, and also a 20-year KMC follow-up cohort that showed significant long-lasting protective social and behavioural effects extending into adolescence and young adulthood.

The TTS project focused on scaled implementation of KMC in Mali and Cameroon, including two ‘centres of excellence’ and 10 regional health facilities. The intervention package consisted of promotion and support of breastfeeding and skin-to-skin contact after birth for stable LBW newborns, and included home visits up to 28 days of age. The project team examined effect on survival, anthropometric outcomes including head growth, exclusive breastfeeding rates, rates of KMC and KMC education. Early child development outcomes were not directly measured.

Findings
A key aspect of programmatic learning regarding implementation was the importance of in-country leadership and ‘buy in’ at all levels, but particularly at individual facility level. Lack of infrastructure, in way of equipment and materials, was highlighted as a key challenge in delivering KMC. Introduction of an E-learning platform to facilitate quality practice was particularly well received, with teams reporting high levels of self-directed knowledge transfer and positive experiences of high-quality training in an easy-to-navigate format.

Implications
Interventions typically thought of as targeting newborn and child survival also have the potential to promote early child development. Local buy-in from in-country leaders and establishment of local protocols and infrastructure can be crucial to the success of these programmes. E-learning platforms may be a useful adjunct for high quality and coverage of training when implementing at scale.

Mother Care (KMC) scale-up in Mali and Cameroon, was crucial.

Roles of different sectors
Government partnerships, predominantly health, were key for scaling and sustainability in TTS projects. In Bangladesh, Brazil and Colombia, the focus was on implementation of RCEL programmes through health and social protection services. This required adaptation of interventions to account for case load, incentivisation, intervention strategy and dosage, and meant that projects were more vulnerable to political instability and loss of direct control of implementation. However, these challenges were balanced against reach and perceived sustainability of government services. Furthermore, in spite of challenges, published findings demonstrate the feasibility and effectiveness of integrating interventions into existing government services (boxes 1–4).

In the Mobile Crèches project in India, the private sectors (NGOs and construction companies) were chosen as primary implementation partners to reach children not already connected with government health services. Qualitative feedback also highlighted the potential role of the private sector for other reasons (eg, for experience in scaling models). Sectoral partnerships with child protection and disability were not well explored across the portfolio although are the focus of ongoing Saving Brains projects.

Families and communities as partners in design and implementation
Active partnership with families and communities was important and was achieved through various methods (ie, inclusion in situational analysis and piloting, participation of family members as front-line workers and through consideration of family perspectives in monitoring and evaluation). One project (Vietnam) specifically focused on father engagement.

Situational analysis and adaptation to context
Projects were based in Africa, Eastern Europe, the Middle East, Central America and South-East Asia. Seven (30%), 11 (48%) and 5 (22%) projects were implemented in low, low-middle and upper-middle-income countries, respectively (according to World Bank definitions). Upper middle-income projects were implemented mostly in Brazil (Since Saving Brains has a partner organisation, Fundação Maria Cecilia Souto Vidigal (FMCSV) in Brazil). Child health, education and equity profiles of project sites varied. Only one project (Democratic Republic of Congo) was implemented in a humanitarian setting (table 1, supplementary web appendix table C).

Detailed understanding of context through formative research and piloting was considered crucial to implementation design and effectiveness. TTS teams using the ‘Reach Up’ curriculum made adaptations to content, delivery strategy, target population, materials, personnel, training, supervision and sociocultural context to suit their contexts in Bangladesh, Colombia and Brazil (table 1). These adaptations were important to ensure feasibility, acceptability and potential sustainability and scalability of interventions across settings. Context-specific adaptation of parenting programmes in Bangladesh is outlined in box 3 to highlight the importance of ongoing adaptation during implementation and scaling.

In spite of the importance given to situational assessment and contextual adaptation, these factors were typically based on implicit local knowledge in the absence of structured tools to support situational assessment and given an absence of population-level data on ECD.

The importance of understanding financial context was also highlighted repeatedly, however it was difficult for projects to track cost data. One project (Colombia) explored cost in detail (box 4).

Programme design
Sectoral entry point
Most project teams (63%) used health as the primary entry point. RCEL projects were most common and included several larger TTS projects implemented in Bangladesh, Colombia, Brazil and India. Thirty-three per cent of projects combined responsive caregiving with health interventions (typically

### Table 1  Summary of programme decisions in Saving Brains Responsive Caregiving and Early Learning (RCEL) Transition to Scale grants (n=4). (Please note, an additional TTS grant related to Kangaroo Mother Care is described separately in the Cameroon and Mali case study (box 1))

<table>
<thead>
<tr>
<th>Name</th>
<th>Modified Reach Up (Bangladesh)</th>
<th>Enhanced FAMI</th>
<th>Modified Reach Up (Brazil)</th>
<th>Mobile Crèches for Working Mothers’ Children</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lead institution</strong></td>
<td>International Centre for Diarrhoeal Disease Research Bangladesh (ICDDR, B)</td>
<td>Universidad de los Andes (UDLA)</td>
<td>Faculdade de Medicina da Universidade de Sao Paulo (USP)</td>
<td>Mobile Crèches for Working Mothers’ Children (CMC)</td>
</tr>
<tr>
<td><strong>Country</strong></td>
<td>Bangladesh</td>
<td>Colombia</td>
<td>Brazil</td>
<td>India</td>
</tr>
<tr>
<td><strong>Site</strong></td>
<td>Narayanganj and Narsingdi districts (rural)</td>
<td>Boyacá, Cundinamarca, Santander, Tolima (rural, periurban)</td>
<td>Sao Paulo (urban slum area)</td>
<td>Delhi National Capital Region (urban construction sites)</td>
</tr>
<tr>
<td><strong>What is being scaled?</strong></td>
<td>An integrated RCEL and nutrition intervention</td>
<td>An improved pre-existing integrated RCEL and nutrition intervention</td>
<td>An RCEL intervention delivered by pre-existing and novel cadres of workers</td>
<td>An RCEL intervention, with development and strengthening of early learning services</td>
</tr>
<tr>
<td><strong>Leadership and partnership</strong></td>
<td>Government health services, local families and communities</td>
<td>Government social services, academic</td>
<td>Government health services, academic, private child focused foundation (Maria Cecilia Vidigal Foundation)</td>
<td>Community, Mobile Crèches and other early learning non-government organisation, construction industry</td>
</tr>
<tr>
<td><strong>Situational analysis (context and need)</strong></td>
<td>Government recognises the educational and financial benefits of ECD and has incorporated ECD into the national plan of action. Existing national infrastructure of government primary healthcare community clinics with supervision structure for clinic staff. Initial concerns regarding workload, motivation for front-line workers.</td>
<td>Building on existing long-standing government Family, Women and Infancy Program (FAMI) for women during pregnancy until their children are 2 years of age, combined clinic and home visits. Focused on several regions in central Colombia which were considered to be socioeconomically deprived.</td>
<td>Increased government support for ECD but major gaps in programmes, especially public services for young children. Shift towards mandatory early learning provided a favourable policy environment.</td>
<td>This built on long-standing relationships between Mobile Crèches and partner organisations to provide for basic and early learning needs of children of migrant workers who would otherwise typically be left unaccompanied while their parents were working.</td>
</tr>
<tr>
<td><strong>Sector (primary)</strong></td>
<td>Health</td>
<td>Social services</td>
<td>Health</td>
<td>Informal/private</td>
</tr>
<tr>
<td><strong>Targeted/universal/indicated</strong></td>
<td>Targeted to undernourished children</td>
<td>Targeted according to socioeconomic vulnerability (national data available)</td>
<td>Targeted to urban slum populations</td>
<td>Target to children of migrant construction workers</td>
</tr>
<tr>
<td><strong>Focal nurturing care domain</strong></td>
<td>RCEL (and health and nutrition)</td>
<td>RCEL and nutrition</td>
<td>RCEL</td>
<td>RCEL</td>
</tr>
<tr>
<td><strong>Participating children (n)</strong></td>
<td>1597</td>
<td>2134</td>
<td>206</td>
<td>4845</td>
</tr>
<tr>
<td><strong>Research question</strong></td>
<td>Feasibility and effectiveness</td>
<td>Feasibility and effectiveness</td>
<td>Feasibility, impact and cost-effectiveness</td>
<td>Feasibility, effectiveness and scalability</td>
</tr>
<tr>
<td><strong>Findings</strong></td>
<td>Implemented in 90 clinics, feasible and acceptable</td>
<td>► Positive impact on child development: cognition (+0.15 SD), receptive language (0.11 SD), expressive language (0.14 SD) and gross motor scores (0.14 SD) compared with active controls using Bayley-III.</td>
<td>► Adapted programme was acceptable to caregivers and families.</td>
<td>Child care programme delivered through partnerships with 11 non-government organisations, 24 builders at 40 crèches. Crèches scored well on standard early learning quality assessment measures.</td>
</tr>
</tbody>
</table>

| References                  | 18 34 21 35 36 |

ECD, early child development; TTS, Transition to Scale.
Findings

Challenges, both anticipated and unexpected, were experienced but not insurmountable. Poor initial attendance at sessions was managed through greater engagement of families and communities in intervention adaptation and implementation design processes. Various incentivisation strategies were considered and tried, however, being mindful of logistics with scaling, strategies that focused on communication, engagement and awareness raising rather than material incentivisation were selected. Changes in government nutrition programmes during the course of implementation which were outside the researchers’ control, meant that provision of nutritional supplements was not possible, and therefore the nutritional intervention component focused on counselling only. There were also anticipated challenges with government staff workload, motivation and expectation of remuneration. Engagement of front-line workers as well as existing supervisors in the process of implementation was important in overcoming these challenges.

In spite of these challenges, the responsive caregiving intervention was successfully implemented in 90 clinics with evaluation findings in process.

Implications

Moving forward, researchers plan to continue with intervention scale-up through government services, noting that their role is likely to change with scaling. Specifically, in the next phase of scaling, transitioning responsibility for staff supervision and training to government workers will be evaluated. To reach children at geographic distance, engagement of other partners and new delivery strategies are also being considered (eg, non-governmental organisation (NGO) sector, media).

Targeted versus universal

In line with the funder requirements, all projects were targeted on the basis of a range of developmental risk factors, including:

► Health, for example, nutritional status or neonatal risk factors (ie, preterm birth or low birth weight). One project (Jamaica) for children with a non-nutritional chronic disease (ie, sickle cell disease).

► Socioeconomic deprivation.

► Geographic location including rural, remote populations and urban slum populations.

► Ethnicity.

► Maternal mental health. One project (Democratic Republic of Congo) targeted women at risk of depression based on screening.

► Developmental delay. One project (Peru) targeted an at-risk population based on developmental screening. No interventions explicitly focused on children with developmental disabilities.

However, methods for targeting varied and frequently relied on implicit local knowledge in settings where population-level data on child developmental status and risk factors were lacking (supplementary web appendix table C).

DISCUSSION

Our mixed-method evaluation of the largest donor investment in ECD highlighted important findings of relevance to health professionals and policymakers around the world.

Multilevel partnerships are important for design, implementation and scaling. Our findings add to previous literature emphasising the importance of partnerships between policymakers, implementers in different sectors, communities and researchers. TTS projects built on long-term, well-established relationships with stakeholders at multiple system levels and emphasised the practical importance of leadership at lower as well as higher system levels to support implementation (eg, in KMC scaling in Cameroon and Mali, for health worker engagement in Bangladesh). TTS project experiences also highlight that roles and responsibilities within these partnerships change with scaling (eg, changing responsibilities for health worker training with scaling in Bangladesh and Colombia).
Multiple adaptations were made to the base programme including adaptations of content, delivery strategy (e.g., frequency of home visit), personnel and materials. The adapted programme was implemented by both existing government health workers as well as a new cadre of worker or ‘community developmental assistants’. Overall, the adapted parenting programme was well accepted by caregivers and front-line workers. Use of a clear structured curriculum, training and supervision approach was considered an important enabling factor. However, challenges were experienced with high turnover and low prioritisation of the intervention by salaried government workers in the context of their broader workload.

**Implications**
Careful consideration of human resource requirements including cadre of worker, case load, scheduling, training and supervision is a key consideration to support feasibility of implementation with further scaling.

**Leadership for ECD can be developed through peer networks and ‘communities of practice’.** We observed peer-peer learning and development of multidisciplinary communities of practice to be useful mechanisms for ECD leadership development at country level. There are an increasing number of such communities being developed, which could serve as a useful resource for policymakers and practitioners alike. For example, the Early Child Development Action Network was established by UNICEF and the World Bank in 2016 to provide one access point to resources and a community of practitioners.22 23

**Situational analysis and adaptation of ECD interventions to context are crucial but often rely on implicit knowledge and informal processes.** Situational analysis and formative data are crucial for intervention adaptation, feasibility, sustainability and scale-up. However, we observed that situational analysis typically relied on implicit knowledge of context rather than a systematic approach, and there were limited data on epidemiological need (i.e., population-level child development status and/or risk factors). In other areas of child health (e.g., newborn health), structured tools for assessment of context and availability of epidemiological data provide clearer structure for adapting interventions to context.24

There are an increasing number of tools to support situational analysis within ECD including World Bank ‘Country Profiles’ for assessing policy context and the UNICEF situational analysis tool which is available online.

A range of sectoral entry points for RCEL may be effective depending on context. TTS projects demonstrate that multiple sectors provide feasible and acceptable entry points for ECD. The Enhanced Family, Women and Infancy Program (FAMI) and Modified Reach Up (Bangladesh) programmes add to previous literature that demonstrates that RCEL interventions can be adapted and effectively implemented across diverse settings, in both cases through government services. Mobile Crèches demonstrated an alternative entry point through private and informal sectors to successfully engage hard-to-reach children.

All projects were targeted but varied in the approach used to identify their target population, often relying on informal local knowledge. While use of commonly available indicators (e.g., socioeconomic data in the Enhanced FAMI programme or health status in the Modified Reach Up (Bangladesh)) is one practical approach, improved population-level data on a
Early consideration of pathways to impact and scale is important and can be supported by a ‘theory of change’ approach. Given that ECD interventions, like those in other inherently interdisciplinary fields (eg, nutrition, mental health), are complex, inter-related and dynamic, it is important to have a programming approach that allows for this complexity, considers pathways to impact and potential challenges to scaling from early stages of design. The Saving Brains portfolio used of a theory of change approach which was valued by multiple stakeholders in encouraging forward planning. This resonates with recent literature in the field which demonstrates that RCEL interventions developed using a theory of change approach are most effective across LMIC.25

Evaluation also highlighted scaling as ongoing and adaptive rather than as a separate process that occurs only after initial demonstration of effectiveness. This finding is supported by other literature from both high-income country and LMIC which demonstrates that simple approaches to rapid cycle learning (eg, incorporation of plan-do-act cycles) can strengthen ECD programmes.26 27

**Strengths, limitations and research implications**

While this is the largest multicountry evaluation to date, Saving Brains projects were relatively small, of short duration and heterogeneous in design and quality. We now need rigorous evaluation at much larger scale and our work highlights specific gaps including how to strengthen demand; facilitation and governance of partnerships at scale; programme strategies when leadership is lacking; further development of situational tools to improve context description by epidemiology and level of service provision; differentiation of programme designs according to context; and targeted interventions including for children in humanitarian settings and with disabilities, both of which are a focus in ongoing Grand Challenges Canada funded portfolios.28–30

Improved population-level data will be important for ensuring equitable coverage to identified target populations.28 Identifying population strengths as well as risk factors in programme success will be crucial in respectful cross-cultural adaptation of interventions.

Finally, more research to better understand cost-effectiveness of design and implementation choices is needed. Although the TTS project in Colombia provides a good example of such work and in spite of its recognised importance, many project teams were unable to address this.21 Other crucial issues discussed later in this supplement include; monitoring and evaluation, funding and accountability and barriers and enablers to scaling.11–14

**CONCLUSION**

ECD programme development across LMIC requires targeted situational analysis and practical approaches to incorporating feedback into design, implementation and scaling. Long-term investment in partnership at all levels is crucial as is leadership which can be supported by peer networks and ‘communities of practice’. Multiple sectoral entry points are feasible and effective at small scale but ongoing research is needed to inform how to systematically differentiate programme design according to context and to understand impact at much larger scale over longer time periods. Improved data on ECD at population level are needed to promote more effective programme targeting and tracking of coverage and equity with scale-up. Finally, approaches to addressing practical human resource challenges, defining essential intervention content, and monitoring and
evaluating programmes are also needed to deliver on calls for action in ECD.

Author affiliations
1Maternal, Adolescent, Reproductive and Child Health Centre, London School of Hygiene and Tropical Medicine, London, UK
2Murdoch Children’s Research Institute, Melbourne, Victoria, Australia
3Economics Department, Universidad de los Andes, Bogota, Colombia
4Centro de Estudios de Desarrollo Economico (CEDE), Universidad de los Andes, Bogota, Colombia
5Maternal & Child Health Intervention Research Group, Department of Population Health, London School of Hygiene and Tropical Medicine, London, UK
6Northern School of Paediatrics, Newcastle-upon-Tyne, UK
7Departamento de Pediatria, Faculdade de Medicina da Universidade de Sao Paulo, Sao Paulo, Brazil
8Early Child Development, UNICEF, New York City, New York, USA
9Department of Mental Health and Substance Abuse, World Health Organisation, Geneva, Switzerland
10Institute of Translational Medicine, University of Liverpool, Liverpool, UK
11Bernard van Leer Foundation, The Hague, The Netherlands
12Maternal and Child Health Division, International Centre for Diarrhoeal Disease Research Bangladesh, Dhaka, Dhaka District, Bangladesh
13Children’s Investment Fund Foundation, London, UK
14School of Social and Community Medicine, University of Bristol, Bristol, UK
15Department of Paediatrics and Child Health, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania
16Munk School of Global Affairs and Public Policy, University of Toronto, Toronto, Ontario, Canada
17Center on the Developing Child, Harvard University, Cambridge, Massachusetts, USA
18Department of Paediatrics and Child Health, Aga Khan University, Karachi, Pakistan
19Mobile Creches, Sector IV, New Delhi, India
20Grand Challenges Canada, Toronto, Ontario, Canada
21Neonatal Medicine, University College London Hospitals NHS Trust, London, UK

Acknowledgements We thank all the innovators, participants and researchers involved in projects included in the Saving Brains portfolio and evaluation. We thank Grand Challenges Canada as funder of unpublished data. We thank the Early Child Development Expert Advisory Group for their guidance; and we are grateful to Claudia da Silva and Fion Hay for administrative assistance.

Contributors Technical oversight of the series was led by JEL and KMM. The first draft of the paper was undertaken by KM. Other specific contributions were made by RBS, AB, PRB, TD, MG, EG, JH, RH, BK, MKL, HK, KM, VPH, JR, MAR, KLS, CT, JEL. The Early Child Development Expert Advisory Group (PRB, TD, EG, Sally Grantham-McGregor, MG, JH, RH, KM, JR, MAR, KLS, Arjun Upadhyaya) contributed to the conceptual process throughout. All authors reviewed and agreed on the final manuscript.

Funding This supplement has been made possible by funding support from the Bernard van Leer Foundation. Saving Brains impact and process evaluation was funded by Grand Challenges Canada.

Disclaimer The authors alone are responsible for the views expressed in this article and they do not necessarily represent the views, decisions or policies of the institution with which they are affiliated.

Competing interests None declared.
Provenance and peer review Commissioned; externally peer reviewed.

Data sharing statement All data within this research article are covered by a data sharing agreement as part of the Saving Brains, Grand Challenges Canada, grant with Saving Brains and other individual project teams. We are happy to provide further details on request.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: http://creativecommons.org/licenses/by-nc/4.0/.

REFERENCES

24. Lawn JE, Blencowe H, Oza S, et al. Every Newborn: progress, priorities, and potential beyond survival. Lancet 2014;384:189–205.