

No time for business as usual: can systems thinking help us to accelerate recovery for early child development?

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The United Nations Sustainable Development Goals (SDG) and Global Strategy for Women's Children's and Adolescent's Health (2016–2030) envision a world where every child is enabled to thrive or reach their developmental potential.^{1,2}

Yet, close to a decade on from the SDG call to action, data demonstrate that the gap between our collective goal for early child development (ECD) and reality is unfortunately not diminishing, but rather increasing. This begs the question, if 'insanity is doing the same thing over and over and expecting different results' (Albert Einstein), what do we need to differently to meaningfully shift course towards more equitable developmental opportunities for children?

Before the pandemic, it was already clear that few interventions promoting ECD had been equitably and sustainably scaled at national level, and substantial inequities existed in child development indicators between and within countries.^{3,4}

Unfortunately, the COVID-19 pandemic and its related control measures have amplified inequities and had a substantial adverse impact on important factors related to ECD in diverse settings.^{5,6} For example, during the pandemic, an estimated 167 million children worldwide have missed out on early childhood care and education and an additional 10.75 million children are estimated to be 'off track' in their early development. These losses are greatest in low and middle-income countries.⁷

This increasing gap between our envisioned goal and reality for many children has occurred in spite of a substantial evidence base for interventions to promote child development and increasing momentum for ECD within global networks. A large body of evidence, amassed over decades, demonstrates the importance of investing in early

SUMMARY OF KEY POINTS

- ⇒ In the face of contemporary global challenges to child development, both pre and postpandemic, business as usual approaches are inadequate to promote equitable early child development (ECD). To build back better, we need to build back differently in efforts to accelerate progress towards equitable developmental opportunities for children.
- ⇒ Child development, which is inherently dynamic, ecological and intersectional, is fundamentally about complex systems. However, typically approaches to promotion of ECD at scale have focused on single programmes or interventions which have failed to deliver on impact or be sustained.
- ⇒ A deliberate shift towards more systemic approaches to implementation of evidence-based ECD interventions holds promise for strengthening weak and fragmented systems, which support children and families.
- ⇒ Exploration of lessons learned from other disciplines where systemic approaches to implementation at scale are already embedded may facilitate codesign, implementation and evaluation of systems innovations relevant to ECD.

childhood (0–8 years), to improve long-term health, development, educational outcomes and opportunities in adult life through interventions in health, education and other sectors.³ In 2018, the WHO, UNICEF and World Bank launched the landmark 'Nurturing Care Framework for ECD' (NCF). The NCF is an inclusive strategy and policy framework, which aims to ensure children receive holistic inputs through health, nutrition, responsive caregiving, safe-guarding and early learning in order to promote their development.⁸ In other words, a great deal is already known and has been clearly articulated about what children need to thrive.

As such, we argue that the primary challenge in bridging the gap between our current trajectory and the global vision of every child thriving is perhaps not a question about *what*

to do but rather a question about *how* to do it, in order to more meaningfully progress equitable developmental opportunities for children.

Specifically, in the face of the pandemic and other major contemporary disruptions to global child health and development (eg, the climate crisis, conflict), we suggest that innovation is needed to promote child development through systems, which better support children and families in the diverse communities in which they grow, learn and play. We need to shift beyond scale-up of single interventions, to approaches informed by systems thinking, which consider how to mobilise multilevel interventions, based on existing evidence, in response to the needs of children and families across the early-years continuum. Systems thinking and its applications which is well established in other fields but arguably underdeveloped in ECD has potential to transform approaches to promotion of ECD at scale.

Notably, child development itself is arguably all about systems. Viewed through a systems lens, a child's development can be seen as a complex, dynamic system; a non-linear process of self-organisation with emergence of new skills occurring through numerous interactions and feedback within self, with others and through engagement with the environment.⁹ Additionally, interventions to promote ECD are usually complex, intersectoral and framed ecologically. The NCF, for example, identifies components of systems which are important for promotion of ECD at scale. These include leadership and partnerships, policy and legislative context, economics and financing, demand generation, workforce and infrastructure, intersectoral planning and coordination, feedback, monitoring and evaluation.⁹

However, recognition of these factors has not necessarily translated into systemic approaches to ECD programme and policy implementation at scale.¹⁰ In practice, efforts to promote ECD at scale have often focused on implementation of single interventions (eg, parenting programmes).¹⁰ Approaches informed by systems thinking go beyond acknowledgement of complexity and are not usually limited to interventions focused on single system components. At its core, systems thinking describes a way of conceptualising real-world phenomena as 'systems', which aim to improve understanding not only of component parts but also interconnectedness between components, acknowledging that the context in which this exists is dynamic and changes over time.¹⁰ Systems thinking approaches to intervention design and implementation aim to explicitly explore and understand the interactions and interdependencies between component factors in a systems, in a rigorous manner, in order to act based on this understanding, and regularly adapt to feedback (data) and changing conditions.¹¹

We suggest that there is an urgent need to learn from disciplines beyond the traditional ECD community, which have already embedded systemic thinking in implementation at scale and consider how we might apply systems

thinking in ECD more effectively and equitably progress our collective vision of enabling every child to thrive.

Early exploration by Pérez-Escamilla *et al* shows the promise of using a systems lens to understand requirements for successful promotion of ECD at scale.¹² In one of few published papers exploring the relevance of systems thinking to ECD, Pérez-Escamilla *et al* used a complex adaptive systems framework to retrospectively evaluate large-scale ECD programmes in four low and middle-income countries (Bangladesh, India, South Africa and Chile).¹² They found that analysis using a complex systems framework was relevant and improved understanding of how programmes had been scaled as well as systems factors which promoted successful implementation and scaling.¹² Further exploration of how such methods could be prospectively applied, drawing in expertise and experiences from other sectors, where systems thinking is more commonly applied, may yield further insights into approaches for strengthening promotion of ECD at scale.

In fields beyond ECD (eg, health, education, business, finance, agriculture), application of systems thinking has been associated with changes in approaches to scaling interventions relevant to target populations. For example, despite a clear set of technologies and evidence-based solutions, the Water, Sanitation and Hygiene (WASH) sector, like ECD, faces major challenges with equitable and sustainable service delivery.¹³ Worldwide, an estimated 2.3 billion people still lack access to adequate WASH, predominantly people who are poor and reside in rural areas in low and middle-income countries.¹³ Acknowledging the need for innovative approaches to address scaling, sustainability and equity challenges, over time, there has been increased emphasis on the potential role of applied systems thinking in WASH. One example of this, is the investment of United States Agency for International Development in the Sustainable WASH Systems learning partnerships (2016–2021); a multis-takeholder partnership exploring design and testing of systemic thinking for strengthening WASH systems in Cambodia, Ethiopia, Kenya and Uganda.¹³ Evaluations demonstrated improvement in WASH networks and overall positive impact with improved sustainability of WASH services.¹³

Our challenge in ECD then is to understand what lessons have been learnt from failures and successes in applying systems thinking across diverse sectors and to consider how these apply to present challenges in sustainably and equitably promoting ECD at scale. We need to do so with some speed given the year-by-year potential human capital loss.

In applying systems thinking to ECD, particular challenges and opportunities will need to be addressed. Unlike some health interventions where a single sector service delivery platform is the focus of systems strengthening, promotion of child development involves multiple sectors (eg, health, nutrition, education, social protection). The entry point for strengthening systems for ECD

will vary depending on context and different sectors are often at different stages of readiness and need varying degrees of support for systems change. Deliberate focus on demand side creation (eg, for parenting programmes, early childhood education), systems mapping and co-design of implementation approaches with local stakeholders are also crucial components for implementation of systems change. While scaling of interventions for ECD is sometimes supported by non-governmental organisations, the institutionalisation required to ensure that systems change is sustainable requires deliberate focus on local stakeholder analysis, consultation and codesign including relevant governmental ministries, parents, service providers and policymakers. Exploring application of systems thinking for ECD will also require data to ensure that evidence informs implementation and course correction where needed.

All of this is likely to require changes in how we as an ECD community work together to align around what we envision as essential components of systems for ECD. It will require us to hold lightly to our expertise, engaging new partners to share and accelerate learning. Incorporating fresh approaches into ECD implementation strategies will stimulate new mental models, providing opportunities to consider collectively how we can build more resilient systems, to better meet the needs of children and families in the face of major systems disruptors. We need to shift from intervention thinking to systems thinking to seek answers to many unanswered questions in our field, such as: How do we make affordable high-quality childcare a policy reality? What composite of indicators on ECD promotion can guide programme investment? How do we retain a motivated and skilled early childhood workforce rather than rely on volunteers and good will? With increasing numbers of children on the move due to conflict and climate change, the systems serving young children and their families need to be fit for purpose, agile, responsive and ready to expand quickly. Are we up for the challenge?

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