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Workforce preparation for delivery of nurturing care in low- and middle-income countries: Expert consensus on critical multisectoral training needs

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Abstract

Background: Services to support nurturing care through early childhood development (ECD) in low- and middle-income countries are hampered by significant workforce challenges. The global early childhood workforce is both diverse and complex, and it supports the delivery of a wide range of services in extremely diverse geographical and social settings. In the context of contemporary global goals for the universal provision of quality early childhood provision, there is an urgent need to build appropriate platforms for strengthening and supporting this workforce. However, the evidence base to support this work is severely limited.

Methods: To contribute to evidence on how to strengthen the ECD workforce in low- and middle-income countries, this study used a Delphi methodology involving three rounds of data collection with 14 global experts, to reach consensus on the most critical training needs of three key early childhood workforce groups: (i) health; (ii) community-based paraprofessionals, and (iii) educational professionals working across ECD programmes.

Results: The study identified a comprehensive set of shared, as well as distinct, training needs across the three groups. Shared training needs include the following: (i) nurturing dispositions that facilitate work with children and families in complex settings; (ii) knowledge and skills to support responsive, adaptable delivery of ECD programmes; and (iii) systems for ECD training and professional pathways that prioritise ongoing mentoring and support.

Conclusions: The study's detailed findings help to address a critical gap in the evidence on training needs for ECD workers in low-resource contexts. They provide insights into how to strengthen content, systems, and methods of training to support intersectoral ECD work in resource-constrained contexts.

KEYWORDS
child development, developing countries, health professionals, interagency collaboration, training

1 | INTRODUCTION

Estimates suggest about 43% of children in low- and middle-income countries (LMICs) are unlikely to reach their full developmental potential due to poverty and stunting (Richter et al., 2018), and the percentage is likely to increase following the global pandemic (Azevedo et al., 2021). Contemporary work on expanding access to critical supports for early development in LMIC contexts highlights the importance of moving away from traditional structures and frameworks that create fragmented, siloed, inaccessible delivery of early health, nutrition, and educational needs (Bhutta et al., 2019). This reflects research that shows the limited potential for main-stream approaches in reducing disparities for the most vulnerable families and children in LMICs (Kim et al., 2022). Research has found that poor collaboration across health services and over investment in specialised tertiary health care results in "missed opportunities" for preventing premature death in under 5 year olds (Jonker & Stellenberg, 2014). Programmes that are not responsive to values and customs held by local communities are less likely to generate sustained impact on young children (Nsamenang, 2009; Pearson & Degotardi, 2009). Equally, programmes that do not take advantage of opportunities to build on and respond to existing community supports, or structures, are less likely to be successful than those that do (Marfo et al., 2008; Ng'asike, 2014; Richter et al., 2017). These findings highlight the important role of community-centred, joined-up, consistent approaches that are delivered by practitioners who share knowledge and are connected to local, contextual needs.

In response, international agencies are now widely promoting and implementing integrated early childhood development (ECD) approaches that involve partnership across multiple stakeholder groups, in delivering supports that combine health, nutrition, and a focus on responsive caregiving (Daelmans et al., 2017). These approaches are reflected in the Nurturing Care Framework, which has been developed by key international organisations to promote integrated community-centred, multisectoral approaches to delivering ECD programmes (World Health Organization et al., 2018).

Although there is broad international consensus about the merits of an integrated, cross-sector approach to delivering ECD, significant challenges to implementation exist, with severe workforce limitations being a key source of concern. Two key workforce-related issues pose substantial barriers to achieving effective delivery of community-centred, integrated ECD. One of these is related to a severe global workforce shortage, with critical limitations in availability of well-equipped staff to support effective delivery of basic early childhood services in LMICs (Pandya et al., 2018). Evidence presented at the United Nations Educational, Scientific and Cultural Organization's (UNESCO) recent World Conference on Early Childhood Care and Education indicates that, despite ongoing work to train early childhood teachers, average child:trained teacher ratios of 1 to 57 exist in many countries. In some regions of the world, where populations of young children are predicted to increase substantially, ratios of 1 to 110 are predicted for 2030 (UNESCO, n.d.). In 2016, the

World Health Organization (2016) predicted a global workforce shortage of 18 million for public health services, pointing to the need for innovative responses to identifying, defining, and training workforce groups involved in public health. These workforce challenges account, at least in part, for the significant disparities in access to nurturing care available for children across upper middle-income countries and LMICs (McCoy et al., 2022).

A second, workforce-related barrier to delivery of ECD is posed by training approaches that tend to reflect the siloed approaches outlined earlier. Challenges associated with funding and resource allocation have prevented action on training, mentoring, and supporting health professionals to deliver effective, holistic ECD (Reñosa et al., 2020) and on preparing experienced trainers to deliver training that supports multisectoral work across the various workforce groups involved in supporting early childhood health, nutrition, education, and well-being (Yousafzai, Rasheed, Daelmans, et al., 2014). Training opportunities to support ECD implementation across workforce groups are emergent and currently delivered largely via ad hoc programmes associated with specific interventions rather than as part of recognised professional pathways or accredited systems (Tomlinson et al., 2014). This results in many ECD workers, particularly those working in community-based settings, being trained to deliver very specific programmes according to strict guidelines, with little opportunity for professional agency in contextualising delivery of programmes, or for broader professional development (Pandya et al., 2018). It also results in short-term training delivered over a period of less than 4 weeks (Costello & Dalglish, 2016; Yousafzai & Aboud, 2014) and strongly focussed on technical requirements of delivery, rather than on developing knowledge of contextual issues impacting children's health, development, and learning (Pearson et al., 2022). Risks associated with the lack of clarity around roles and career pathways within ECD include overburdening workers with roles that are not clearly articulated and challenges associated with remuneration, resulting in high attrition rates (Penfold et al., 2013; Rodríguez et al., 2015; Tomlinson et al., 2014).

As a starting point for addressing some of these issues, the research reported here was commissioned by the UK Foreign Commonwealth Development Office (formerly Department for International Development). The research aimed to establish, through consultation with a group of global experts, identification of (i) key groups of workers involved in delivery of ECD in LMICs; (ii) unique training needs and strategies that reflect work in LMIC contexts across each of these groups, and (iii) strategies for strengthening intersectoral work on delivery of ECD through training.

2 | METHODOLOGY

2.1 | Defining ECD workforce groups

In line with the emphasis on strengthening intersectoral work that is characteristic of the Nurturing Care Framework (Daelmans

TABLE 1 Key early childhood development workforce groups identified via comprehensive literature review of early childhood development provision in low- and middle-income countries.

Health professionals (working in formalised health settings)	Nursing sister; nurse/health worker; physician; and midwife (Jonker & Stellenberg, 2014; Mkontwana et al., 2013; Yousafzai, Rasheed, Daelmans, et al., 2014)
Noncertified paraprofessionals (working in and with communities, generally employed in outreach delivery of early childhood programmes in homes and community spaces)	Anganwadi worker; childcare workers; community health workers; health support assistants; home visitors; lady health worker; traditional birth attendant; and community motivator (Fernandez-Rao et al., 2014; Hughes et al., 2021; Jonker & Stellenberg, 2014; Marfo et al., 2008; Rodríguez et al., 2015; Yousafzai, Rasheed, Rizvi, et al., 2014)
Education professionals (working in formalised education settings)	Early childhood educator; preschool teacher; and teaching assistant (Biersteker et al., 2008; Evans & Bartlett, 2008; Sun et al., 2015)

et al., 2017), key workforce groups involved in ECD were identified as part of a comprehensive literature review conducted in preparation for the Delphi study (Pearson et al., 2017). Consistent with the study's focus on LMIC contexts, the review focussed on literature reflecting ECD programmes operating in countries defined by The World Bank (n.d.) as low-income and lower-middle-income economies (LMICs). The review indicated that much of the evidence on roles and preparation of workforce groups involved in ECD differentiates between the three key groups outlined in Table 1. Strengthening the capacity of each of these workforce groups to work sustainably and effectively within frameworks that emphasise multisectoral, community-centred work is crucial for meeting the needs of vulnerable children and families.

2.2 | Delphi study

Delphi techniques are used to explore issues where there is limited available evidence, by examining consensus among experts on areas of particular importance within specific areas of interest. Delphi techniques are characterised by an iterative process of data collection incorporating key elements that result in expert consensus around essential areas of importance, by clarifying and refining members' responses across multiple rounds of data collection (Jünger et al., 2017).

2.2.1 | Expert panel

Reviews of the Delphi technique suggest that careful selection of the panel is crucial for establishing rigour. Akins et al. (2005) reference Delphi studies involving panels of 5 to 15 experts in research on competence training for primary care nurses and health-promoting interventions and skills. Decisions on the composition of this study's panel considered a need to incorporate (i) experience in frontline delivery of training across the three ECD workforce groups; (ii) knowledge of a representative range of LMICs; and (iii) high-level involvement in shaping policy at national, regional, and international levels. Based on these criteria, 22 potential participants

were invited to join this study: 14 agreed to participate and completed the first two survey rounds. Those members of the panel who agreed to be identified are listed in the Acknowledgements section.

2.2.2 | The Delphi procedure

This study adopted a classic Delphi approach with three rounds of data collection (Iqbal & Pipon-Young, 2009; Trevelyan & Robinson, 2015). Data were collected via questionnaires distributed to participants using the online survey tool SurveyMonkey. Informed consent was gathered from all participants, and the study received ethical approval from the first author's institutional research ethics review committee. Brief details on tools used and analyses conducted for each round are presented here. A visual overview of the process is presented in Appendix A, and all tools are presented in Data S1–S3.

2.3 | Round One tools and analysis

The Round One questionnaire was developed following a literature review conducted as preparation for the Delphi surveys (Pearson et al., 2017). Round One consisted of 15 open-ended questions designed to generate broad insights into experts' views on the following aspects of training, for each of the three ECD workforce groups listed in Table 1: (i) essential skills and knowledge; (ii) essential qualities, attributes, and qualifications; (iii) recommended training materials; (iv) strategies for administration and monitoring/follow-up training; and (v) methods for scaling-up training (please see Data S1–S3 for details).

To produce a set of statements for consensus ranking in Round Two, two members of the research team coded the qualitative responses independently and then collaboratively. All open-ended responses received from Round One were compiled and analysed through a process of (i) open coding to identify key patterns in responses (e.g., identifying "essential skills" based on those listed repeatedly across the expert group), followed by (ii) axial coding to

allow for additional categories. For example, analysis of responses to question 7 on "essential qualities, attributes, and qualifications" indicated consensus among experts that supporting the development of "dispositions" for practice forms an essential aspect of training for ECD workers; hence, this was included as a category in the Round Two survey. In scripting statements for the Round Two survey, intentional effort was made to retain wording used by experts (Hasson et al., 2000). A draft version of the Round Two survey was reviewed and revised by all members of the research team.

2.4 | Analysis of Rounds Two and Three responses: A priori measurement of consensus levels

A priori definition of consensus is recommended as a key component of rigour in Delphi studies (Diamond et al., 2014). For Rounds Two and Three, levels of consensus per item were determined as a percentage of the responses that fell within the top ratings of each item on the 8-point scale:

  i.   7, top importance measure;
 ii.   7 or 6, top two importance measures; and
iii.   7, 6, or 5, top three importance measures.

Using descriptive data, an item was categorised as reaching "strong consensus" if either >90% of participants rated it in the top two importance measures or >80% of participants rated it in the top two and 100% rated it in the top three. An item was categorised as having reached "consensus" if either >80% of participants rated it in the top two or 90% rated it in the top three. All other items were deemed not to have achieved consensus and were labelled "low consensus."

Frequency data were also used to assess consistency of consensus on each item, using the percentages of respondents who rated the item as (i) 7; (ii) as either 7 or 6; and (iii) as 7, 6, or 5. This approach established both the extent of agreement or disagreement between the experts and the strength of general agreement within each item.

Following consensus analyses on Round Two data, the research team reviewed all low consensus items and removed most from the Round Three survey. A small number of items identified via qualitative comments from the panel as lacking in clarity were revised and retained.

A final analysis of consensus was then conducted for Round Three responses, using the same methods outlined for Round Two. For Round Three, however, consensus was also measured by the extent of change in responses between Rounds Two and Three. A series of *t*-tests were conducted on items presented at both rounds to ascertain whether any differences were statistically significant. The results were nonsignificant for all items, indicating strong consistency in responses across both Rounds Two and Three.

Full details on the surveys can be found in Data S1–S3. Raw data are available on request.

3 | RESULTS

Experts' views coalesced around a notable emphasis on preparing ECD workforce groups to facilitate responsive, contextualised provision by equipping them with knowledge and skills to establish collaborative, respectful relationships with families (please see Table 2). This emphasis closely reflects the underpinning focus on placing families at the heart of programmes advocated by the Nurturing Care Framework (World Health Organization, 2020).

3.1 | Component one: Dispositions

Experts provided further insight through qualitative responses which highlight how the emphasis on respect, empathy, and associated dispositions reflects unique complexities of provision in many LMICs. One panel member explained: "Without such sensitivity, it is not possible to make the necessary connections between ECD content and approach and how it will be locally understood and received and taken up or not." Experts also, however, acknowledged that training should support dispositions to prepare workforce members to sensitively address potential barriers posed by cultural customs and beliefs. As one expert explained:

> Many evaluated programmes have used local ECD workers as delivery agents. Familiarity with local culture is an asset, but we must also be cognizant when training a local ECD cadre of issues such as hierarchies in social context that may hinder relationship building with families and sharing similar attitudes on practices we may want to change.

TABLE 2 Dispositions: Shared training needs across all ECD workforce groups (certified health; noncertified paraprofessional; and certified education).

	All ECD workforce groups need to:
SC	Treat children with respect
SC	Show empathy and understanding of children and families
SC	Be caring
SC	Be open to feedback and others' ideas
SC	Be respectful of diverse groups
SC	Elicit trust and respect from community
C	Be patient
C	Be knowledgeable and sensitive to local context
C	Be sensitive to needs of target group/community
C	Be curious and eager to learn/motivated
C	Be open to possibilities for changing/enhancing practice to better suit the needs of children and families

Abbreviations: C, consensus; ECD, early childhood development; SC, strong consensus.

3.2 | Component two: Essential skills

As indicated in Table 3, the panel's agreement that certified health professionals working in ECD need training to support others in the profession fits with the wider emphasis on mentoring and ongoing supervision. Dialogue and skills for *connecting* and collaborating are crucial for facilitating such interactions. As one expert commented: "This is a huge challenge in my experience, there is a great deal of 'expert' instruction rather than dialogue" (in health practice). Another commented:

> This is seldom a priority in LMIC countries, especially when health professionals are responsible for particular aspects of maternal and child health (MCH) and often find it challenging to think beyond those parameters.

Notable distinctions across the three workforce groups highlight the different training needs of professionals and paraprofessionals.

TABLE 3 Essential skills.

	All ECD workforce groups need to be able to:
SC	Interact responsively with children
SC	Apply good listening, observation, and communication skills
SC	Interact responsively with parents
SC	Actively problem solve and look for solutions to challenges
C	Work with and involve parents
C	Reflect on practice and self-evaluate
C	Work effectively with peers and others
	Certified health professionals also **need to be able to:**
SC	Coach and effectively instruct and mentor others
C	Track/monitor children's development and physical needs
C	Facilitate, and effectively articulate, complex ideas in simple ways
C	Connect with parents, families, and communities
C	Use dialogue to communicate, rather than just instruct
C	Sensitively and effectively influence and challenge perceptions or customs which are counter to child rights
C	Work with local community members and value their views
	Noncertified paraprofessionals also **need to be able to:**
C	Use available resources to model/set up language-rich, stimulating environments for young children
C	Connect with parents, families, and communities
C	Modify practice for individual children's needs
	Certified education professionals also **need to be able to:**
C	Modify practice for individual children's needs
C	Apply creativity in developing learning plans and resources
C	Demonstrate strong language skills
C	Connect with parents, families, and communities
C	Work with local community members and value their views

Abbreviations: C, consensus; ECD, early childhood development; SC, strong consensus.

For example, items that reached consensus for paraprofessionals again emphasise connections with parents, families, and communities—but centre around using available resources rather than modifying learning materials. As one expert explained, "While this is NB (sic) it is for many paraprofessionals a big ask and I would suggest that it is their supervisors who should help with programme and materials adaptation."

3.3 | Component three: Essential knowledge

As shown in Table 4, distinct training needs are reflected in consensus on essential knowledge within each of the three groups. These fit with widely recognised differences in expectations of roles and responsibilities for workers within each group. Expert consensus around essential knowledge perceived to be important and shared across the three groups which reflects core components of the Nurturing Care Framework that is shaping global policy and programmes in ECD (WHO et al., 2016).

3.4 | Component four: Training systems, methods, and materials

Ongoing mentoring and support is increasingly viewed as critical in LMICs, as reflected in the responses presented in Table 5, as initial and preservice training is commonly conducted over very short periods of time—commonly 4 to 6 weeks—in resource-constrained contexts (Yousafzai & Aboud, 2014). This is particularly true for education and paraprofessionals, many of whom work in informal and community-based settings. Implementing systems for ongoing learning and support is therefore crucial for sustained impact of training.

Open-ended Round One responses indicated commonalities across all ECD cadre groups for methods and approaches to training. As reflected in Table 6, distinct needs were also highlighted for certified education professionals and noncertified paraprofessionals, but no specific needs were highlighted for certified health professionals. There was consensus among the panel that interactive training techniques should be employed across all cadre groups. Peer-to-peer learning and an emphasis on supervision and mentorship as part of the training methodology were, again, also emphasised. As one expert commented:

> For all ECD professionals—my perspective is that a combination of gaining/strengthening knowledge and practices related to ECD theory with actual practice—and then coming together to reflect and discuss issues experienced that touch on theory and practice works the best …. WITH (expert's emphasis) guided supervision and mentoring and then coming back together for further inputs as well as reflection and critical self-review of what worked or not and adjustment of understanding and practices.

TABLE 4 Essential knowledge.

	All trained ECD workforce groups need to know about:
SC	The importance of quality interactions for infant and child development
SC	Principles of holistic child development (multiple domains)
C	Child development milestones (applied appropriately across diverse cultural contexts)
C	Home and family context impacts on learning and development
C	Responding sensitively to parents and establish positive, trusting relationships
C	Identifying possible signs of developmental delay and refer children to appropriate professionals/support
C	*Locating and working with other sectors in the community (health, education, welfare, and others as appropriate to context/cadre)*
C	Child rights in the early years
C	Monitoring children's progress
	Certified health professionals also need to know about:
SC	Maternal and child nutrition (breastfeeding support and infant feeding support)
SC	Early childhood health and nutrition
SC	Identification of high-risk pregnancy and referral actions
SC	Preventive, promotive health practices and care for young children and families
SC	Parenting and early stimulation for supporting early learning and development
SC	Signs of maternal depression and appropriate support, including referrals
SC	Identifying developmental delay in infants and young children and providing appropriate referral advice
C	Maternal and newborn health needs
C	The long-term impact of development during the early years of life
C	The significance of the first 1000 days for later development (including evidence on early brain development)
C	How children learn/child-centred learning approaches
C	How to support and promote care during pregnancy in home-based settings
C	Principles of inclusive practice
C	How to support children and families from diverse backgrounds appropriately
C	How to provide neo-natal care in home-based settings
C	How to provide neo-natal care in facility-based settings
	Paraprofessionals also need to know about:
SC	How to support and guide mothers and primary caregivers in providing early stimulation and warm, responsive care giving
SC	The importance of early stimulation and responsive caregiver/child interactions
C	Parenting and early stimulation for supporting early learning and development
C	How children learn/child-centred learning approaches
C	Provision of first aid
C	WASH (water, sanitation, and hygiene) guidelines
C	How to appropriately support children and families from diverse backgrounds
C	Principles of inclusive practice
	Education professionals also need to know about:
SC	Play-based learning approaches and their importance for children's holistic development
C	How to plan learning experiences/adapt curriculum to fit individual children's needs
C	How children learn/child-centred learning approaches
C	Classroom management strategies for large and small groups of children
C	How to balance/combine play and directed learning
C	Early childhood competencies and learning activities/experiences that support these
C	How to provide a range of learning experiences including varied themes and areas of learning
C	How to identify and support emergent literacy and numeracy skills
C	How to develop new activities and materials
C	How to adapt curricula to suit local contexts
C	How to support children and families from diverse backgrounds appropriately

Note: Item in italic emphasis indicates a revised item.
Abbreviations: C, consensus; ECD, early childhood development; SC, strong consensus.

TABLE 5 Training systems: Shared training needs across all ECD workforce groups.

	Training systems should provide these opportunities for all ECD workforce groups:
SC	There should be opportunities for both preservice and in-service training for all ECD cadres
SC	There should be clear professional/training pathways for all ECD cadres
SC	Training for all cadres should incorporate a strong field-based component, where trainees/candidates spend part of their time receiving instruction in formal settings, followed by implementation of what they have learned in their respective professional settings
D	Training should be centralised and administered by government
	Follow-up mentoring and supervision:
SC	Supervision and monitoring should be delivered in a nonthreatening manner
SC	Observations of practice as part of supervision should be followed by dialogue and reflection sessions
SC	Training should be followed by on-site, ongoing mentoring and supervision
SC	Effective supervisor training is critical for programme success
SC	Supervisors should be experienced
SC	Training on its own is far less effective than training that is supported by follow-up supportive supervision
C	Systems of supervision and monitoring should provide opportunities for regular sharing sessions with peers
C	Supervision and monitoring should promote self-monitoring and reflection (e.g., via self-monitoring guidelines)

Abbreviations: C, consensus; D, consensus of disagreement that item is important; ECD, early childhood development; SC, strong consensus.

TABLE 6 Training methods and materials.

	Training should adopt these <u>methods</u> for all ECD workforce groups:
SC	Planned refreshers and continuing professional development sessions
SC	Reflection on practice
C	Participatory/interactive sessions
C	Combination of instruction and active learning strategies, such as role-play
C	Supportive supervision and mentorship by skilled personnel
C	Interactive sessions (question and answer)
C	Peer-to-peer learning in groups
C	Analysing examples of effective practice
	In addition, training for noncertified paraprofessionals should also include:
SC	Workers have opportunity to observe experienced peers "in action" in home or early childhood settings
C	Workers develop and use practical resources during training
C	Focus on delivery of a specific curriculum/package, to ensure in-depth knowledge of each aspect and accompanying materials
	Training should adopt these <u>materials</u> for all ECD workforce groups:
C	Video resources (e.g., examples of a range of practices across different contexts that can promote discussion of various pedagogical approaches and interaction styles)
C	A combination of relevant and appropriate materials, including locally developed and accredited resources
	<u>In addition</u>, training for noncertified paraprofessionals should also include:
SC	Programmes/manuals/ECE curriculum (training should closely follow guides and/or curriculum that cadres will be implementing, to ensure that they are equipped to deliver by completion of training)

Abbreviations: C, consensus; ECD, early childhood development; ECE, early childhood education; SC, strong consensus.

3.5 | Component five: Assessing impact of training

Qualitative feedback from experts on this training component included concerns about risks associated with the use of globalised measures, which would not reflect local contexts, and about the challenges of ensuring that measures of quality and impact reflect the quality of training and not other factors (such as retention, pay, and conditions). It is notable that the panel's highest level of consensus here was that high-stakes summative assessment should be *avoided* as a measure of training impact (please see Table 7). This was supported by qualitative feedback stressing that assessments should not use measures which might place undue pressure on ECD staff.

TABLE 7 Assessing impact: Shared needs across all ECD workforce groups (certified education, certified health, and noncertified paraprofessional).

	Applicable to all ECD cadres: Assessing short- and long-term impacts resulting from provision of ECD training Short-term impact
C	Documented changes in creating child-centred, age-appropriate learning environments
	Long-term impact
SC	*Assessment of impact of ECD training should avoid using high-stakes measures, such as one-off summative testing* (new item to reflect open-ended comments)
D	Documentation of ECD cadre retention rates

Abbreviations: C, consensus; D, consensus of disagreement that item is important; ECD, early childhood development; SC, strong consensus.

There was also a consensus of disagreement here with the proposition that ECD staff retention rates should be adopted as a measure of training quality, given the wide range of other variables that impact on retention.

3.6 | Component six: Scale-up of training

Responses presented in Table 8 reflect the importance of well-equipped staff to provide training for ECD workforce groups. One panel member proposed a national level "… creation and utilisation of mobile teams of competent trainers composed of government sector, tertiary institutions and CSO to support local training centres and institutions and ECD centres." This was supported by other members who stressed the importance of mobile teams of ECD trainers who could access marginalised or remote areas: "Place greater emphasis on small cadres of very strong trainers who work with network of ECD programmes. What grows out of this bottom-up approach will ultimately fuel a national surge."

4 | DISCUSSION

The aim of this study was to identify training needs that reflect the unique nature and conditions of ECD work in LMIC and resource-constrained contexts, to inform the development of alternative approaches and models of delivery. Understanding the training needs of ECD workers in these contexts is fundamental to addressing the ongoing critical workforce shortages and limitations that result in missed opportunities for preventing premature deaths among young children (Jonker & Stellenberg, 2014). It is also significant for ensuring that the nurturing care approach advocated by international organisations is implemented effectively. Without a workforce that is equipped to deliver intersectoral, community-centred programmes,

TABLE 8 Scale-up of training: Shared needs across all ECD workforce groups (certified health; noncertified paraprofessional; and certified education).

	Applicable to all ECD cadres: Possibilities for documentation of short- and long-term impacts resulting from provision of ECD training
SC	Financing plan/budget
SC	Availability of a range of trained personnel to support ECD training initiatives
C	Stable workforce to support scale-up at all levels
C	Attention to how to scale to remote areas
C	Alliance of formal and nonformal sectors to ensure reach/coverage of training to all ECD cadres
C	Centralised plans for ongoing supervision and mentoring
C	Established, recognised professional standards and clear career pathways which offer progression from basic training through to postgraduate level
C	Accredited training unit or institute at national/regional level to set policy and procedure
C	Commitment to intervention and accountability across all levels of administration

Abbreviations: C, consensus; ECD, early childhood development; SC, strong consensus.

national and international policies that adopt such approaches are unlikely to succeed.

Three important insights can be drawn from the findings.

4.1 | Strengthening systems for delivery of training: Mentoring and supervision

Mentoring and supervision achieved the strongest and most consistent levels of consensus among panel members. Their strength of agreement highlights the unique nature of ECD training in LMIC and low-resource contexts. In many LMIC contexts, the preparation of ECD workforce groups tends to consist of short-term, targeted training delivered in a few days and designed to support the delivery of specific initiatives. Based on a review of 29 integrated ECD programmes, Yousafzai and Aboud (2014) report that most ECD training in LMICs lasts for under 2 weeks. A review of preservice training for community health workers across 58 countries reported that in 44 countries, preservice training for community health workers was completed in under 1 month (Costello & Dalglish, 2016). Because knowledge and skills gained during short duration ECD training are easily lost, there have been numerous calls for a greater focus on supervision and ongoing support. This is based on widespread concerns that current supervision efforts are severely lacking. Both the literature and panel members suggest that effective ECD training systems must incorporate a focus on mentoring, supervision, and ongoing continuing professional development and collaboration.

4.2 | Promoting skills for adaptation and contextualisation of ECD programmes

There was consistent agreement among the expert panel members that ECD training for workers in LMIC contexts should equip staff in every sector with skills in flexibility, creativity, and adaptability and that this should enable them to work effectively with, and draw on, localised needs and resources. The panel also emphasised the importance of modelling and nurturing these skills through the training process. While the literature often discusses the need for training programmes to reflect local contexts, these results highlight the important role of facilitating this through the training process, and this fits closely with the consensus about relationship building to facilitate deep understanding of local contexts through close connections with caregivers and communities.

Numerous studies have argued, or provided evidence that a lack of focus in programmes and policies on local customs, needs, structures and capacities can result in significant challenges in delivery (Jonker & Stellenberg, 2014; Ng'asike, 2014; Nsamenang, 2009). Programmes that build on existing informal community supports, or more formal structures, have a greater likelihood of successful impact (Marfo et al., 2008; Pearson et al., 2022; Richter et al., 2017). The Delphi results provide evidence to support how this can be built into preparing the ECD workforce through a focus on appropriate skills, knowledge, and dispositions in training programmes.

4.3 | Common core training requirements as a platform for connecting sectors

Distinctions in training needs for different groups highlighted across the core components of training covered in this study are supported by existing literature on roles and responsibilities of professional and paraprofessional ECD workforce groups (Okonofua & Ogu, 2014; Sibley et al., 2014). The study also found strong consensus around commonalities in training needs across the three different workforce groups. Common core requirements/training needs could be drawn upon to strengthen multisectoral work in ECD, as advocated by the Nurturing Care Framework (WHO et al., 2018). Common requirements identified in this study include skills in relationship building, through delivery of appropriate knowledge and skills, as well as promotion of specific dispositions. There was strong consensus among our expert panel that dispositions reflecting a caring, respectful, and empathetic nature are essential for all ECD cadres. A similar pattern is noted in the Essential Skills section, where there is strong consensus that interacting positively with children and families; listening, observation, and communication; and working with parents are essential skills for all ECD cadres.

This focus, again, addresses concerns raised in contemporary literature, which highlights the importance of dialogic pedagogies. In line with the growing focus on nurturing care in delivery of ECD programmes, across the board, there are calls for greater focus on developing skills around relationship building in training for ECD cadres, to support work with parents and communities (Abdillah & Karna, 2014; Yousafzai, Rasheed, Daelmans, et al., 2014). As current evidence reported earlier suggests, ECD personnel working across a range of contexts play a crucial role in establishing strong linkages within and across communities. However, as Yousafzai, Rasheed, Daelmans, et al. (2014) point out, the importance of building relationships and establishing/strengthening networks is not emphasised in traditional training for professionals working in health or education settings. Indeed, the relationship-building approach to service provision and intervention required of integrated ECD approaches presents particular challenges for health workers, as conventional medical models of provision tend to perpetuate deficit approaches. These tend to assume that parents and families require educating *out of* existing customs and practices, whereas integrated approaches that encourage early stimulation, parental confidence, and self-efficacy require practitioners to *work with and build on* current practices. As Yousafzai, Rasheed, Daelmans, et al. (2014) note, achieving the types of partnerships between families, communities, and different cadres of ECD workers that is needed for effective implementation of integrated, child-focussed interventions requires a paradigm shift in training and preparation. The capacity for listening and responding is therefore an essential requirement of training that is applicable for a range of ECD workers employed across different sectors in LMICs.

4.4 | Implications for future work

The findings reported here provide a valuable starting point for developing models of training for the ECD workforce that reflect (i) the unique contexts and conditions in which health, education, and community-based professionals and paraprofessionals in LMICs work to deliver ECD and (ii) approaches to delivery that are advocated by global guidance on "best practice," such as the Nurturing Care Framework. Further work is needed to better understand how key findings of the study can be implemented. For example, better understanding of (i) opportunities for integrating key aspects of training across ECD workforce groups and (ii) practicable, effective implementation of mentoring and supervision frameworks in low-resource contexts could be informed by research into existing programmes being conducted across LMIC contexts.

4.5 | Limitations

By its nature, the Delphi process involves the reduction and simplification of complex concepts. One example here is the narrow focus on parents as children's primary caregivers in contexts where children regularly receive care from extended family members. The study team endeavoured to reduce the risk of reduction by keeping channels of communication open throughout the process. In return, the team received invaluable feedback from the panel. Indeed, the level of feedback to open-ended questions and optional comment boxes reflected the experts' depth of commitment and engagement.

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CONFLICT OF INTEREST STATEMENT

We have no conflict of interest to disclose.

DATA AVAILABILITY STATEMENT

Data are made available via the supporting information documents.

ETHICS STATEMENT

This study received ethical approval from the Bishop Grosseteste University Research Ethics Committee. Informed consent was gained from all participants.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

APPENDIX A: OVERVIEW OF THE DELPHI PROCESS

Round 1

19 open-ended questions sent to 14 experts who agreed to participate in the Expert Panel

Completed by 14

212 items generated

Round 2

14 members asked to rate the importance of 212 items

Completed by 14

Out of 212 items, 151 items retained

Round 3

14 members asked to rate the importance of 151 items

Unable to complete survey: 2

All but 5 items receive at least one rating of 7 ("essential") and all items receive at least one rating of 6 or 7