

JANUARY 2018 | LANDSCAPE ANALYSIS

STRENGTHENING AND SUPPORTING THE EARLY CHILDHOOD WORKFORCE: Training and Professional Development

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The Early Childhood Workforce Initiative (ECWI) is a global, multi-sectoral effort to mobilize countries and international partners to support and empower those who work with families and children under age 8. This initiative is jointly led by Results for Development (R4D) and the International Step by Step Association (ISSA), and supported by a consortium of funders including Bernard van Leer Foundation, Open Society Foundations, ELMA Foundation, and Jacobs Foundation.

This report was written by Radhika Mitter and Vidya Putcha, with assistance from Kimberly Josephson, and under the guidance of Michelle Neuman and Mark Roland at Results for Development (R4D). The following individuals provided invaluable insights as key informants for the study: Christine Chen (Asia-Pacific Regional Network for Early Childhood/Association for Childhood Education International), Collette Tayler (University of Melbourne), Cornelia Cincilei (Step by Step Moldova), Liliana Rotaru (CCF Moldova), Matthew Frey (PATH), and Svetlana Drivdale (PATH). Many thanks are also due to the members of the Early Childhood Development Action Network (ECDAN) Task Force on the Workforce for their guidance and input along with several other individuals including: Emily Vargas-Barón (The RISE Institute), Joan Lombardi (Bernard van Leer Foundation), Aaron Emmel (American Academy of Pediatrics), Tina Hyder (Open Society Foundations), Nurbek Teleshaliyev (Open Society Foundations), Rachel Machefsky (Bernard van Leer Foundation), Melanie Swan (Plan International), Mihaela Ionescu (International Step by Step Association), Amy Bess (Global Social Service Workforce Alliance), Aisha Yousafzai (Harvard University), Stephanie Olmore (National Association for the Education of Young Children) and Sheldon Shaeffer (international ECD consultant).

We are grateful to the Early Childhood Program at the Open Society Foundations for their generous support of the Early Childhood Workforce Initiative, including this report.

Suggested citation:

Mitter, R. & Putcha, V. (2018). *Strengthening and Supporting the Early Childhood Workforce: Training and Professional Development*. Washington, D.C.: Results for Development.





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Acronyms

CCD	Care for Child Development
CHW	Community health worker
CPD	Continuing professional development
ECD	Early childhood development
ECE	Early childhood education
ECEC	Early childhood education and care
EU	European Union
LHW	Lady Health Workers
NGO	Non-governmental organization
OECD	Organization for Economic Co-operation and Development
OVC	Orphans and vulnerable children

Executive Summary

Introduction

Evidence is growing that early childhood development (ECD)¹ services have a strong, positive impact on children's development. Despite increasing knowledge on the benefits of ECD, however, we still do not know very much about the early childhood *workforce*, one of the most important elements influencing the quality of ECD services.

While we know that the workforce is important, key questions remain unanswered: What do early childhood professionals and paraprofessionals need to know and be able to do in order to perform effectively? How do requisite knowledge and skills vary across contexts? What types of training and support do staff receive? How is the early childhood workforce recruited, monitored, and evaluated?

In an effort to address these questions, the Early Childhood Workforce Initiative, led by the International Step by Step Association (ISSA) and Results for Development (R4D), was created as a multi-stakeholder effort to support and empower those who work directly with young children. To inform and guide the Initiative, R4D is carrying out a series of *global landscape analyses* to establish the size and scope of the challenges faced by the early childhood workforce, while also highlighting promising practices countries have adopted in response to these challenges. Spanning a range of roles including professionals and paraprofessionals, paid and unpaid workers, and frontline workers, trainers, supervisors, and managers from the education², health and nutrition, social protection and child protection sectors, the early childhood workforce is vast and diverse.³ Recognizing this diversity along with their many shared objectives, these analyses aim to provide a comprehensive overview of the current status of the workforce worldwide. The four themes⁴ which will be explored in this series include: **competences and standards**, **training and professional development, monitoring and mentoring**, and **recognition of the profession**. This report, the first in this series, addresses the theme of *training and professional development*.⁵

What is training and professional development?

Two of the primary types of training and professional development opportunities discussed in this report are pre- and in-service training.

• **Pre-service or initial preparation or initial training** refers to training in which an individual engages *prior* to beginning a position.⁶ This form of training ensures that workforce members are

¹ The term early childhood development (ECD) is used in this report to refer to services across the education, health and nutrition, and social and child protection sectors. The term early childhood education and care (ECEC) is used to refer to services encompassing early education and care from birth to the transition to primary school. ² When referring to the education sector, we are also including the child care field unless otherwise noted.

³ Table 1 in the full report provides a snapshot of the various roles within this workforce while the Annex provides a more comprehensive analysis.

⁴ These themes were identified in collaboration with a group of experts convened by the Early Childhood Workforce Initiative in September 2015.

⁵ When using the term training and professional development, both pre- and in-service training are broadly implied.

⁶ National Association for the Education of Young Children (NAEYC) & National Association of Child Care Resource and Referral Agencies (NACCRRA) (2011). *Early childhood education professional development: training and technical assistance glossary.*

adequately prepared to serve in a particular role and may include a combination of coursework and field training.

• In-service or ongoing training is a form of training in which early childhood professionals enhance their skills and maintain current knowledge and practice. While often optional, inservice training may be required in order to improve knowledge and skills, to maintain individual licensure or advance to a new level of licensure, to meet employer expectations, or to meet other requirements for early childhood professionals working in the field.⁷ Continuing professional development (CPD), a form of in-service training, is designed to complement existing training pathways for early childhood development professionals, extending beyond the basic accredited training courses required for certification and recertification, where those systems exist. CPD embraces the idea that individuals aim for continuous improvement in their professional skills and knowledge beyond the basic training required to carry out the job.⁸

Why focus on training and professional development?

Taking into account the diverse backgrounds and experiences of individuals delivering ECD services, training and professional development programs offer an opportunity to impart a core set of knowledge and skills to members of the early childhood workforce, which is particularly important as programs look to scale and reach a greater number of young children and families. In addition, there is evidence to suggest that supporting individuals with such opportunities can influence child development outcomes. For example, a recent meta-analysis of global studies of center-based early childhood education and care programs found that higher teacher qualifications are related to improvements in supporting children's development, including those related to supervision and the scheduling of activities, organization and arrangement of the room, providing varied social experiences for children, and creating a warm and friendly environment for interactions.⁹ Beyond qualifications, other research has suggested that the quality of the education program – i.e. how well it prepares new teachers by, for example, grounding them in knowledge of child development and academic subject areas – may be a more critical factor in a teacher's ability to influence children's development and learning in a positive way.¹⁰

Although there is growing evidence that a well-trained and supported early childhood workforce is key to providing high-quality services to young children and families, there have been limited efforts to systematize the various approaches taken across the entire early childhood workforce. This is the first attempt to review global literature and experiences across early childhood sectors and roles. In identifying shared experiences, challenges, and approaches across the early childhood workforce, it is hoped that this study can support efforts to strengthen the training and professional development opportunities available to members of the early childhood workforce.

⁹ Manning, M., Garvis, S., Fleming, C., Wong, T. W. G., (2017). *The relationship between teacher qualification and the quality of the early childhood care and learning environment*. Campbell Systematic Reviews.
 ¹⁰ Hyson, M., Biggar Tomlinson, H., & Morris, C. (2009). "Quality Improvement in Early Childhood Teacher Education: Faculty Perspectives and Recommendations for the Future." *Early Childhood Research & Practice*. 11(1).

⁷ NAEYC & NACCRRA (2011).

⁸ Singapore Ministry of Social and Family Development (n.d.). *Achieving excellence through continuing professional development: A CPD framework for early childhood educators,* Ministry of Social and Child Development.

Key Findings

This study synthesizes evidence on the approaches to and challenges associated with training and professional development across the early childhood workforce. An extensive review of published and grey literature, and key informant interviews with ECD experts yielded 10 findings:

- 1. A variety of providers deliver training and professional development programs for the early childhood workforce, leading to different types of qualifications. Providers of both pre- and inservice training programs include universities, post-secondary and vocational training institutions, government agencies, and non-governmental organizations (NGOs). As pre-service training programs may be delivered by a variety of providers, this may lead to different qualifications, such as degrees, diplomas, and certificates. In addition, requirements for entry into the profession may vary by role, sector, and country. Similar to pre-service training, in-service training opportunities also take a variety of forms, such as mentoring/coaching, workshops and conferences, reflection groups, and refresher and specialized training programs. However, requirements for in-service training are typically fewer than for pre-service training, and are in many cases optional for ECD personnel. Certain countries, however, have prioritized in-service training, such as South Africa where it is required for all social service workers to maintain their registered status.¹¹
- 2. Access to training and professional development opportunities has steadily increased; however, it is often limited for those working with the youngest children, auxiliary staff and for rural and remote populations. For example, in early childhood education and care (ECEC), those working with children in the 0-3 age group, and those working as caregivers or teacher assistants, typically receive less training than core early childhood educators. However, certain countries, such as the Netherlands and France, make concerted efforts to provide the same training opportunities for both core and auxiliary ECEC workers.¹² Additionally, across sectors, rural and remote populations are at a disadvantage as many training programs are located in urban areas. To better reach rural and remote populations, distance learning is emerging as a promising solution. For example, the Regional Psychosocial Support Initiative (REPSSI) in Eastern and Southern Africa, provides an 18-month accredited distance-learning certificate course in community-based work with children and youth for social and child protection workers.¹³
- 3. Limited financial support for training and professional development can further inequities in access. While some systems provide robust financial support for training and professional development, such as New Zealand, which funds in-service support for the first two years of ECEC teachers' induction and mentoring program, in other systems, such as Ghana, ECEC teachers are required to pay for their own in-service training.¹⁴ Some countries are increasing financial support, for example, through scholarships, to increase access to these opportunities. The state of Victoria

¹¹ McCaffery, J. & Collins, A. (2013). Under recognized cadres of HRH in Africa: Professionalizing the social service workforce. Washington, D.C.: USAID.

¹² Van Laere, K., Peeters, J., & Vandenbroeck, M. (2012). "The education and care divide: The role of the early childhood workforce in 15 European countries," *European Journal of Education Research, Development, and Policy*, 47(4), 527-542.

¹³ McCaffery & Collins (2013).

¹⁴ Education International (EI). (2010). *Early childhood education: A global scenario* (A study conducted by the Education International ECE Task Force). Brussels, Belgium: EI.

in Australia offers scholarships in varying amounts for a range of ECEC certificate, diploma, and degree programs for Aboriginal populations, who may have limited access to training opportunities.

- 4. Variation in duration, structure, and intensity of training programs has quality implications. There is much variation in the duration of different pre- and in-service training opportunities. While access to shorter training programs can be beneficial to early childhood workforce members who are unable to participate in full-time or degree programs, there is some evidence to suggest that training programs that are longer and more intensive allow for practitioners to develop a greater range of in-depth knowledge pertaining to their field. For example, results from a study comparing three forms of pre-primary education in Cambodia show a linear relationship between the intensity and duration of educators' pre-service training and effect sizes on children's learning.¹⁵ Additionally, training programs that are specialized or focused on specific topics in early childhood education and child development, can have a positive effect on teaching practices and children's learning outcomes. For example, it has been found that ECEC practitioners with specialized training and higher education generally engage in positive adult-child interactions, including praising, comforting, questioning, and responding to children.¹⁶
- 5. Training and professional development opportunities may be enhanced when aligned with competences and standards for roles and with guidelines for training providers. Competencebased approaches, which help learners focus on specific areas for professional development based on their individual needs and the knowledge and skills identified as being important for job performance, strengthen training and professional development opportunities. Training programs for community health workers (CHWs), for example, frequently employ competence-based approaches to training, which focus on providing CHWs with the skills they require for their job, compared with traditional knowledge-based learning.¹⁷
- 6. Training and professional development curricula should address the particular needs of the workforce to be relevant to local contexts. While many countries lack the human and financial resources to develop local curricula and materials, efforts to develop more culturally relevant curricula have emerged on a smaller scale through specific NGOs. The Aga Khan Foundation Madrasa Resource Centers in Kenya, Uganda, and Zanzibar provide teacher education and preschool curricula that are closely connected to the local contexts in which the resource centers are located. Teacher training is focused on preparing teachers to use local stories and languages, culturally-relevant child-rearing practices, and locally-available resources.¹⁸ In general, involving

¹⁵ Yoshikawa, H. & Kabay, S. (2015). *The evidence base on early childhood care and education in global contexts.* (Paper commissioned for the EFA Global Monitoring Report 2015, Education for All 2000-2015: achievements and challenges).

¹⁶ Litjens, I., & Taguma, M. (2010). Network on early childhood education and care: Revised literature overview for the 7th meeting of the network on early childhood education and care, OECD.

¹⁷ Aitken, I. (2014). Training community health workers for large-scale community-based health care programs. In Perry, H. & Crigler, L. (Eds), *Developing and strengthening community health worker programs at scale: A reference guide and case studies for program managers and policymakers*, (1-21), Jhpiego Corporation.

¹⁸ Sun, J., Rao, N., & Pearson, E. (2015). *Policies and strategies to enhance the quality of early childhood educators* (Paper commissioned for the EFA Global Monitoring Report 2015, Education for All 2000-2015: achievements and challenges).

multiple stakeholders in the design of training programs, such as frontline workers, managers, ECD experts and academics, and relevant ministries, can help ensure training curricula is aligned with the needs and context of the workforce members and the communities they serve.

- 7. Field education and other opportunities to gain practical skills are important components of initial preparation. Across sectors, efforts to integrate field education into pre-service training programs are underway. In Burkina Faso, the national training program in social work places a strong emphasis on practice, with internships included as part of the curriculum. These internships begin with a one-month "observational" internship during the first year of training, followed by increasingly lengthy internships in years two and three in either government or NGO sites. ¹⁹ However, challenges persist regarding the availability, implementation, and quality of field-based programs. In a number of countries, pre-service training continues to be theory-driven. Additionally, where field education does exist, it is often not formalized with clearly set guidelines, and field instructors are often inadequately trained to supervise students. Limited suitable placements and difficulty scheduling field hours with course requirements are also challenges.²⁰
- 8. In-service training opportunities are most effective when they are ongoing, tailored to individual needs, and incorporate peer learning. In-service training that is ongoing in nature and that offers opportunities for self-reflection are often valued more by participants than training offered through one-off or short-term sessions.²¹ A study of European Union (EU) member states found that continuing professional development (CPD) interventions lasting over a year that are integrated into practice, such as pedagogical guidance and coaching in reflection groups, are effective both in countries with a well-established system of ECEC provisions, and a high level of qualification requirements for ECEC workers, as well as in countries with poorly subsidized ECEC systems and low qualification requirements.²² The extent to which in-service training is tailored to individual needs is also a crucial factor in ensuring quality professional development. Coaching programs which are based on identifying and addressing practitioners' individual needs, and setting achievable goals aligned with those needs can be useful in this regard. Additionally, inservice training that incorporates peer learning is valued as a mechanism for growth. Research conducted on national efforts to strengthen the social service workforce in Indonesia, Moldova, and Rwanda, found that the use of peer learning was effective in building capacity, reducing isolation and burnout, and increasing support.²³

systematic review, Publications Office of the European Union, Luxembourg.

¹⁹ McCaffery & Collins (2013).

²⁰ Hochfeld, T., Selipsky, L., Mupedziswa, R., & Chitereka, C. (2009). *Developmental social work education in Southern and East Africa*. Johannesburg, South Africa: Centre for Social Development in Africa, University of Johannesburg.

²¹ Whitebook, M., Gomby, D., Bellm, D., Sakai, L., & Kipnis, F. (2009). *Preparing teachers for young children: The current state of knowledge, and a blueprint for the future* (Part 2: Effective teacher preparation in early care and education: Toward a comprehensive research agenda). Berkeley: Center for the Study of Child Care Employment.
²² Eurofound. (2015). Working conditions, training of early childhood care workers and quality of services – A

²³ Better Care Network & the Global Social Service Workforce Alliance (GSSWA). (2015). *Working paper on the role of social service workforce development in care reform*. Washington, D.C.: IntraHealth International.

- 9. Roles are often not clearly defined which weakens training and professional development and limits opportunities for career advancement. Many countries lack clearly defined roles for members of the early childhood workforce. For example, of 14 countries where job descriptions were requested for a study on the social service workforce in West and Central Africa, only 2 countries, Burkina Faso and Benin, could point to existing ones.²⁴ Without clearly defined functions, titles, and educational requirements, pre-service training opportunities are at risk of being ineffective in preparing workforce members for their roles. At the same time, when functions, titles, and educational requirements are poorly defined, it is difficult to connect them with in-service training opportunities in the system to facilitate career advancement. Certain countries are engaging in efforts to address this challenge. For example, Croatia's Act on Social Work Activity (2012) defines the roles and obligations of the social service workforce.²⁵
- **10.** Rapid training of paraprofessional workers can be effective in addressing workforce shortages, and also provide them with opportunities for career advancement. Several countries, particularly resource-poor settings, have used task-shifting, or the training of paraprofessionals or staff with lower qualifications to take on a greater range of services that are outside of their traditional role, thereby increasing the supply of trained ECD workers while also offering paraprofessionals opportunities for career advancement. For instance, Ethiopia's Health Extension Program has established a new cadre of community health workers by training selected community members to perform basic promotive, preventative, and certain curative activities typically performed by professionals.²⁶

Conclusion and areas for further research

Training and professional development opportunities provide critical knowledge and skills to members of the early childhood workforce. However, limited access among specific groups and varying quality, emanating from a number of factors including the length of programs, incorporation of practical experiences, and relevance to local contexts, reduce their potential for impact. As countries consider how best to design and implement training and professional development in their systems, they may want to consider identifying whether pre- and in-service opportunities are widely available, what types of practical training opportunities they offer, how they are linked to any available competences and standards, and whether they are relevant to the day to day activities of the workforce.

While this study advances existing knowledge on the early childhood workforce by synthesizing for the first time data on training and professional development experiences from across sectors, regions, and roles, many gaps remain at the program and systems levels. At the program level, while we know that the structure and format of training and professional development opportunities matter for quality, there is little evidence regarding specific factors that impact child outcomes, with most of the evidence

 ²⁴ Canavera, M., Akesson, B., & Landis, D. (2014). Social service workforce training in the west and central Africa region. Conducted for UNICEF by the CPC Learning Network, UNICEF & CPC Learning Network.
 ²⁵ Whitebook et. al., (2009).

²⁶ Global Health Workforce Alliance (GHWA) & World Health Organization (WHO). (2010). *Global experience of community health workers for delivery of health-related millennium development goals: A systematic review, country case studies, and recommendations for integration into national health systems*. Geneva: WHO.

coming from the education sector. At the systems level, we know that the costs of providing training and professional development opportunities can be major barriers in scaling them up. However, we know very little about how much countries spend on relevant training and professional development programs, how much high-quality training programs cost, and what percentage of budgets should be devoted to pre- and in-service training to meet current and future needs. Further research should address these questions in order to contribute to dialogue and policy efforts to strengthen support for the early childhood workforce.

Introduction

Evidence is growing that early childhood development (ECD)²⁷ services have a strong, positive impact on children's development. Research from diverse contexts shows that interventions which promote nurturing care in early environments significantly improve childhood development and later adult outcomes (Britto et al., 2017). Despite increasing knowledge on the benefits of ECD, however, we still do not know as much about one of the most critical parts of ECD programs: the early childhood workforce. Research shows that the workforce is one of the most important factors influencing the quality of ECD services. For example, in the early childhood education sector, evidence indicates that personnel's level of education and participation in training is a better predictor of program quality than other factors such as child-staff ratios or group size (Burchinal et al., 2010).

While we know that the workforce is important, key questions remain unanswered: What do early childhood professionals and paraprofessionals need to know and be able to do in order to perform effectively? How do requisite knowledge and skills vary across contexts? What types of training and support do staff receive? How is the early childhood workforce recruited, monitored, and evaluated?

In an effort to address these questions, through the Early Childhood Workforce Initiative – a multistakeholder effort to support and empower those who work directly with young children led by the International Step by Step Association (ISSA) and Results for Development (R4D) – R4D is carrying out a series of *global landscape analyses* to establish the size and scope of the challenges faced by the early childhood workforce, while also highlighting promising practices countries have adopted in response to these challenges. Spanning a range of roles including professionals and paraprofessionals, paid and unpaid workers, and frontline workers and managers, from the education²⁸, health and nutrition, social protection and child protection sectors, these analyses aim to provide a comprehensive overview of the current status of the workforce worldwide.

The four themes²⁹ which will be explored in this series include:

- **Competences and Standards** Competences and standards ensure that there are agreed requirements and expectations for what early childhood workers should know and be able to do. They also lay the groundwork for the core principles, regulations, guidelines and procedures guiding their work with young children and their families.
- Training and Professional Development Since the early childhood workforce is very diverse, including, for example, many volunteers or staff without formal education, training and professional development opportunities support the acquisition of necessary skills and competences.
- Monitoring and Mentoring Creating systems for monitoring, evaluation/assessment, and continuous feedback and coaching are important for ensuring that workers receive information that they can use to improve their practice on an ongoing basis and for linking members of the workforce to pathways for career advancement.

²⁷ The term early childhood development (ECD) is used in this report to refer to services across the education, health and nutrition, and social and child protection sectors. The term early childhood education and care (ECEC) is used to refer to services encompassing early education and care from birth to the transition to primary school.
²⁸ When referring to the education sector, we are also including the child care field unless otherwise noted.
²⁹ These themes were identified in collaboration with a group of experts convened by the Early Childhood Workforce Initiative in September 2015.

 Recognition of the Profession – Currently, the level of remuneration, working conditions, and status of the early childhood workforce are poor, even relative to primary teachers, nurses, social workers, and other similar professions. Recruitment challenges, high turnover, and low morale compromise the quality of provision. There is a need to explore ways to improve the attractiveness and perception of the profession and promote ways to give voice to practitioners in their daily work and in policy discussions, including through collective action.

It is hoped that a diverse group of stakeholders working in ECD, including policymakers, researchers, program managers, and practitioners can use the findings of these landscape analyses to generate lessons for countries looking for ways to support and strengthen the early childhood workforce, and enhance existing programs, policies, research, and advocacy efforts concerning the early childhood workforce.

This report, the first in this series, addresses the theme of training and professional development.³⁰

³⁰ The second report in this series covers the topic of competences and standards. Please see: Putcha, V. (2018). *Strengthening and Supporting the Early Childhood Workforce: Competences and Standards*. Washington, D.C.: Results for Development.

Roadmap for the Report

The report begins with a description of the early childhood workforce, which is followed by a rationale for focusing on training and professional development as a key theme. Following the rationale, the study's methodology and limitations are laid out. Next, an overview of findings is presented regarding pre- and in-service training, which outline both the challenges and promising practices that countries have adopted. The report then concludes with questions for further reflection and recommendations of areas for further study.

The Early Childhood Workforce

Table 1: Roles within the early childhood workforce

Primary sector	Roles		
HEALTH AND	Roles may include:		
NUTRITION ³¹	Auxiliary nurses & auxiliary midwives		
	Community health workers		
	Home visitors		
	Nurses & midwives		
	Medical doctors		
	Nutritionists		
	Health educators & trainers		
	 Health service directors, managers, and supervisors 		
EDUCATION	Roles may include:		
	Child care workers		
	Early childhood teachers		
	Primary school teachers		
	 Social pedagogy professionals 		
	Teacher assistants		
	Teacher coaches		
	Teacher trainers		
	Supervisors		
Education service directors/managers			
	Roles may include:		
SOCIAL AND	Social service workers		
CHILD	Community child protection officers and workers		
PROTECTION	Psychologists		
	Mental health professionals/specialists		
	Residential care staff		
	Social service educators & trainers		
	Community child protection officers and workers		
	 Social service managers 		

³¹ Hygiene is an important aspect of health and roles addressing this area are encompassed in the health and nutrition sector.

The early childhood workforce is vast and diverse, spanning the health and nutrition, education, and social and child protection sectors. Although members of this workforce may include volunteers, paraprofessionals, and professionals, they all have in common the objective to promote the healthy growth, development, and learning of young children (under age 8) and families. This diverse workforce is supported by a broad ecosystem of actors, including both frontline workers who deliver services to young children and families as well as those who directly train, supervise, and manage these practitioners. While these workers may share common objectives, the specific sectors and settings in which they work, as well as their functions, training, and remuneration can vary significantly by context. Table 1 provides a snapshot of the various roles within this workforce while the Annex provides a more comprehensive analysis.

While the early childhood workforce includes several roles across sectors, given knowledge gaps and the diversity of data available across regions, not all roles are explicitly addressed in this report, and some sectors receive more attention than others.

Why focus on training and professional development?

Although access to ECD programs has grown, challenges remain around ensuring their quality to support a child's healthy development. While a number of factors influence the quality of programs, training and professional development³² for those delivering key services plays an important role. Research from the U.S. consistently demonstrates the benefits of more qualified and better trained early childhood development personnel. For example, a large study in the U.S. found that staff with a higher level of formal education had more specialized child-related training, held less authoritarian child-rearing beliefs, and worked in settings rated as more safe, clean, and stimulating (NICHD, 2000). Similarly, a recent metaanalysis of global studies of center-based early childhood education and care programs found that higher teacher qualifications are related to improvements in supporting children's development, including those related to supervision and the scheduling of activities, organization and arrangement of the room, providing varied social experiences for children, and creating a warm and friendly environment for interactions (Manning et al., 2017). Moreover, a study of preschools in ten countries identified that children in schools where teachers had more education were more likely to have higher language scores at age 7 (Montie, Xiang, & Schweinhart, 2006).

³² When using the term training and professional development, both pre- and in-service training are broadly implied.

Box 1: What are pre- and in-service training?

Pre-service or initial preparation or initial training refers to training in which an individual engages *prior* to beginning a position (NAEYC and NACCRRA Training and Technical Assistance Glossary). This form of training ensures that workforce members are adequately prepared to serve in a particular role and may include a combination of coursework and field training.

In-service or ongoing training is a form of training in which early childhood professionals enhance their skills and maintain current knowledge and practice. While often optional, in-service training may be required in order to improve knowledge and skills, to maintain individual licensure or advance to a new level of licensure, to meet employer expectations, or to meet other requirements for early childhood professionals working in the field (NAEYC and NACCRRA Training and Technical Assistance Glossary). Continuing professional development (CPD), a form of inservice training, is designed to complement existing training pathways for early childhood development professionals, extending beyond the basic accredited training courses required for certification and recertification, where those systems exist. CPD embraces the idea that individuals aim for continuous improvement in their professional skills and knowledge beyond the basic training required to carry out the job. (Ministry of Social and Family Development, Singapore – Achieving Excellence through Continuing Professional Development: A CPD Framework for Early Childhood Educators).

Although having a degree in early childhood education can be a factor in staff's effectiveness, it does not guarantee staff competence. The quality of the education program - i.e. how well it prepares new teachers by, for example, grounding them in knowledge of child development and academic subject areas - may be a more critical factor in a teacher's ability to influence children's development and learning in a positive way than simply having a degree (Hyson et al., 2009). In addition to initial education programs, through inservice and continuous professional development (CPD) programs (see Box 1), workforce members may also have the opportunity to diversify and strengthen their knowledge, skills, and practices in their field of work. Research from across European Union (EU) member states shows that CPD improves early childhood education and care (ECEC) practitioners' sense of confidence in themselves as practitioners and leaders in the delivery of ECEC services (Ang, 2012; SQW, 2012; Hayes et al, 2013; Sheridan et al, 2013; Richter, 2012).

In addition, given the diverse backgrounds and experiences of individuals delivering a particular ECD service, training and

professional development offers the opportunity to impart a core set of knowledge and skills to individuals, which is particularly important as programs look to scale and reach a greater number of young children and families. However, although there is growing evidence and consensus that training and professional development matters, there have been limited efforts to systematize the various approaches taken across the entire early childhood workforce. This study aims to fill that gap in order to identify common approaches and challenges. In an effort to understand these diverse approaches, the study answers the following questions:

- Why are pre- and in-service training and professional development opportunities important for the early childhood workforce?
- What are some of the key training and professional development opportunities available to the early childhood workforce upon entry into an area of work and on an ongoing basis?
- How are training and professional development opportunities linked to the competences and personnel and service standards articulated in different systems?
- To what extent are in-service training opportunities for the early childhood workforce linked to career pathways?
- What are the barriers to access, including financing, for pre- and in-service training?

This is the first attempt to review global literature and experiences across early childhood sectors and roles. In identifying shared experiences, challenges, and approaches across the early childhood workforce, it is hoped that this study can support efforts to strengthen the training and professional development opportunities available to members of the early childhood workforce.

Methodology

As a first step, the research team reviewed a select number of global studies on the early childhood workforce from across the education, health and nutrition, and social and child protection sectors. A framework was used to organize the data around the four previously identified themes - competences and standards, training and professional development, monitoring and mentoring, and recognition of the profession – and to identify key questions for further exploration in each of the four planned landscape analyses.

Guided by the key questions identified through this initial review, a call for evidence was circulated to early childhood researchers and practitioners to collect the latest research and evidence on the early childhood workforce. In addition, a targeted database search was carried out to identify published and grey literature specific to training and professional development for the early childhood workforce across sectors. Once literature was collected, the team reviewed it to understand the policies surrounding training and professional development, as well as their availability, format, structure, and delivery. Data were then reviewed to identify key themes, which are presented in the findings.

In addition, case studies were prepared to illustrate the specific challenges and approaches to training and professional development highlighted in the findings. Countries and programs were selected in order to reflect diverse sectors, regions, and roles within the early childhood workforce. A desk review was carried out on each of the selected cases, which was supplemented by key informant interviews where needed.

Study Limitations

This study reviewed literature from countries across income levels. However, because there is limited evidence from low and middle-income countries, at times, there is reliance on data from high-income countries, which may not reflect the experiences of low and middle-income countries.

In addition, although the study reviews roles across sectors in the early childhood workforce, some findings draw more heavily from literature in a particular sector than others. For example, given that many roles in the health and nutrition sector are not specifically or only focused on the early childhood period, there is less representation from this sector.

Key Findings

1. A variety of providers deliver training and professional development programs for the early childhood workforce, leading to different types of qualifications.

Formal pre-service training may be delivered through a variety of providers including universities, postsecondary training institutions, vocational education and training institutions, and non-governmental organizations (NGOs). These providers offer a range of programs leading to degrees (bachelor's, master's, and PhD levels), diplomas, and certificates.

For ECEC workers in the U.S., formal pre-service training may be offered through two- and four-year colleges and universities. In most EU member countries, training programs for core early childhood education professionals are also offered at the tertiary-level, either through universities - or in some countries, including Belgium, Denmark, and the Netherlands - through profession-oriented higher education institutions such as teacher education colleges (SEEPRO, 2010). Such is the case in Latin America as well, where certain countries, such as Argentina, offer ECEC training specifically through post-secondary teacher training institutes and teacher training schools (UNESCO, 2016).

While tertiary-level and degree programs in ECEC are offered in most countries, qualifications required vary significantly by role. For example, in most EU member countries, educational staff, including lead teachers, are usually required to have a bachelor's degree; child care staff typically have an upper-secondary or post-secondary non-tertiary degree; and auxiliary staff or assistants usually possess a minimum qualification at the upper secondary level or less. Additionally, requirements also vary between public and privately-funded work settings. For example, in 23 of the 44 states in the U.S. that fund preschool programs, all lead kindergarten teachers in public schools are required to possess a bachelor's degree. Fewer than half of the states, however, meet this requirement in private settings (OECD, 2006).

In the social and child protection sector, pre-service training in a number of regions is also primarily offered through universities. A study of eight countries in Southeast Europe found that initial training of the social service workforce in all eight countries tends to take place at the university-level (Akesson, 2016). Universities in this region offer bachelor's degrees in social work and many offer master's degrees in more specialized topics. For example, Bulgaria offers master's programs in social work with children at risk, social work with children and families, social counselling and psychology, and clinical social work, among several others. Similarly, research conducted on 12 countries in sub-Saharan Africa found that all 12 offered Bachelor of Social Work degrees and nine offered Master of Social Work degrees (Bunkers et al., 2014). In addition to degree programs, universities may also offer diploma programs, which are shorter than degree programs, typically ranging from six months to two years. Diploma programs may either be taken in lieu of a longer degree program or can be offered as specialized post-graduate courses that complement degree programs. In the social and child protection sector, diplomas usually fall into one of three categories: community-oriented, social work-focused, or those dedicated to other specific subjects, such as child development, counseling, and psychological care, support, and protection (GSSWA, 2015).

Similar to ECEC, required qualifications to become a social or child protection worker vary by country and role. For example, to be a licensed social worker in Croatia or a licensed child protection worker in Romania, one must possess a bachelor's degree in social work. Paraprofessionals or assistant and auxiliary staff are typically not required to complete a university degree, and often receive their licensing through certificate programs. These programs offer targeted training in a specific area designed to prepare field

practitioners and workers on the ground with the knowledge, tools, and skills essential to carry out basic functions that support vulnerable populations (GSSWA, 2015). Certificate programs are often shorter in duration, ranging anywhere from two weeks to 24 months. Compared with degree and diploma graduates, there is a much higher number of certificate program graduates worldwide, likely due to the shorter duration of training and fewer entry requirements as well as the need for expanding service coverage through employing paraprofessional field workers (Global Social Service Workforce Alliance, 2015).

Community health workers (CHWs) who support the delivery of health and nutrition services receive varied types of pre-service training. A recent systematic review identified three categories of CHWs based on qualifications and pre-service training: (i) lay health workers with little or no formal education who undergo a few days to a few weeks of informal training, (ii) paraprofessionals with some form of secondary education and subsequent informal training, and (iii) paraprofessionals with some form of secondary education and subsequent formal training lasting a few months to more than a year (Olaniran et al., 2017). The experience of CHWs highlights the importance of informal pre-service training opportunities offered by NGOs and government agencies, particularly in low- and middle-income countries for the early childhood workforce. For example, there have been a number of government-led efforts to train CHWs who may not have access to university-based programs. Uganda's Village Health Teams program, led by the Ministry of Health, offers pre-service training in a number of areas of basic health care provision, including a module on child growth and development, which covers immunization, food and nutrition, and breast feeding, as well as another module on sexual and reproductive health, including antenatal care (GHWA & WHO, 2010). While NGOs may offer training programs, not all may contribute to official requirements. For example, in Bulgaria, social workers may advance their knowledge and skills through training provided by NGOs; however, these training programs are not subject to licensing requirements and do not count towards degrees (Akesson, 2016).

Like pre-service training opportunities, in-service and CPD programs are delivered through a range of providers including government agencies, non-governmental organizations (NGOs), universities and other post-secondary institutions, vocational education training centers, and private training providers. Furthermore, in terms of structure and duration, in-service training opportunities are often varied and take a variety of forms including: conferences and workshops; refresher training sessions; reflection groups; and mentoring or coaching. These opportunities are designed and delivered in different ways across regions and sectors. Table 2 provides an overview of some of the key forms of in-service training and professional development.

Types of in-service	Description	Example(s)/Activities
training opportunities		
Coaching/Mentoring ³³	Coaching is a relationship-based process led by an expert with specialized and adult learning knowledge and skills, who often serves in a different professional role than the recipient(s). Hanft et al. (2004) describe coaching in early childhood settings as including independent and/or shared observations, demonstration, guided practice, self-reflection, feedback, and evaluation of the coaching process/relationship. Mentoring is a relationship-based process between colleagues in similar professional roles, with a more experienced individual providing guidance and example to the less- experienced mentee (NAEYC & NACCRRA 2011).	The Philippines offers a school-based mechanism called Learning Action Cell (LAC), in which senior teachers provide regular mentorship to junior teachers (SEAMO & UNESCO, 2016). In Ghana, the Sabre Charitable Trust's Transformational Teacher Training Program provides mentor training to existing kindergarten teachers, focusing on the development of coaching skills to enable them to independently support student teachers who are training to become kindergarten teachers (The Sabre Charitable Trust, n.d.).
Conferences,	Conferences and workshops offer a wide variety of options for workforce members	The Association for Early Childhood Educators Singapore (AECES)
workshops, and	to gain knowledge and/or skills in a particular topic or area. These types of in-service	organizes and sponsors participants to attend a range of conferences.
seminars	training programs are short-term, usually lasting no more than a few days, and are	AECES also conducts a 7-hour Code of Ethics workshop for ECEC
	typically organized by professional associations at the national and international	practitioners. This workshop is designed to help practitioners implement
	levels. These types of training provide opportunities to meet other professionals and	AECES's Code of Ethics Handbook for early childhood professionals
	paraprofessionals, which can bring along fresh ideas and stimulus for improving	(AECES, n.d.).
	practices (Litjens & Taguma, 2010).	
Peer learning	Often classified as a type of long-term intervention, reflection groups or professional	The Madrasa Resource Centers in East Africa offer ongoing, weekly
(Reflection groups/Professional	learning communities involve groups of ECD practitioners reflecting on their professional practice, and identifying strengths and areas for improvement.	reflection groups led by mentors for teachers in the program. These groups serve as an opportunity for teachers to reflect on their practice
learning communities)	Reflection groups are facilitated by specialized coaches or pedagogical counsellors	(Bartlett, 2012). In Denmark, a CPD intervention which utilized
icaring communices)	(Eurofound, 2015). The goal of these communities is to create self-sustaining	reflection groups supported preschool staff to critically reflect on
	networks of stakeholders focused on translating, applying, and in some cases,	current practices during group education and training sessions
	producing new evidence in ECD by integrating research findings with experiential	facilitated by university consultants. These training sessions took place
	knowledge from practitioners (Sheridan, 2009).	over the course of two years in three-hour sessions (Eurofound, 2015).
Refresher training;	Refresher training is offered to update and maintain the specialized subject-matter	The training of community health workers (CHWs) in the Democratic
subject training;	knowledge of ECD workforce members, and usually covers a combination of new	Republic of Congo includes three full days of in-service refresher training
specialized training	information and methods, as well as a review of older materials (Van Dersal, 1962).	every month to observe and correct the practices of CHWs and to help
	Similar to refresher training, subject training helps practitioners stay updated on	build their confidence with newly learned skills (Aitken, 2014). The
	scientifically-based methods and curriculum subject knowledge so that they can apply this knowledge to their work practices (Litjens & Taguma, 2010). Specialized in- service training in ECD is comprised of activities specific to early childhood programs and populations that provide specific skills instruction or skill-building content for on- the-job application (Maxwell, 2006; Tout, Zaslow, & Berry, 2006). Specialized training may take place in a classroom setting or online.	HeadsUp! Reading (HUR) professional development training offe specialized training on teaching early literacy in the U.S. The cours covers literacy teaching strategies, curriculum content, and assessmen The course also focuses on working with linguistically and cultural diverse children, as well as with children with disabilities and speci needs (Litjens & Taguma, 2010).

Table 2: Types of in-service training

³³ Mentoring will be explored in a more in-depth manner in a later study in this series, which will focus on the theme of "monitoring and mentoring." For the purposes of this study, mentoring is analyzed solely as a type of in-service training opportunity.

Certain forms of in-service training are compulsory for core ECEC professionals in the majority of EU countries (SEEPRO, 2010). In Greece, for example, all core professionals working in public kindergartens are required to participate in a three-month induction course before taking up their post (SEEPRO, 2010). In South Africa, in-service training is required for all social service workers, irrespective of their role, to maintain their registered status (McCaffery & Collins, 2013). Likewise, in New Zealand in-service training is a requirement and a condition for maintaining teacher registration (Education International, 2010). However, in other contexts, in-service training may not be required but participation may contribute to promotions and/or permanent positions.

2. Access to training and professional development opportunities has steadily increased; however, it is often limited for those working with the youngest children, auxiliary staff, and for rural and remote populations.

Of nearly 80 low- and middle-income countries from all major regions for which data were available in 2009 (excluding OECD countries), nearly one-third of countries estimated that 90 to 100 percent of their pre-primary teachers were trained to national standards. However, nearly one-quarter of countries reported that less than half of their pre-primary teachers reached national standards (ILO, 2012). In addition, regional trends in teacher training at the pre-primary level vary. While the percent of trained pre-primary teachers in East Asian and Pacific countries has increased from approximately 75 percent in 2000 to approximately 90 percent in 2009, there has been a steady decline in trained pre-primary teachers in Sub-Saharan Africa, with the percentage of trained teachers dropping from 57.3 percent in 2000 to 45.6 percent in 2014 (UNESCO-UIS 2011; UNESCO-UIS, 2017). This suggests that early childhood programs may be scaling without sufficient trained teachers to ensure quality (Neuman, Josephson & Chua, 2015).

In the social and child protection sector, efforts to improve the availability of training programs are underway. Since the late 1980s, when social work was officially recognized as a profession in China, there has been a rapid expansion of training programs; today, China has over 250 university programs in social work, including 61 with master's programs (Roby, 2016). On a smaller scale, several countries in Southeast Europe have also made efforts to professionalize the sector and increase access to training and professional development opportunities. For example, from having essentially no social work sector since its independence in 1991, Moldova has since established four university-level and one college-level social work training programs (Better Care Network & GSSWA, 2014).

A number of countries have made significant efforts to prioritize access to in-service training and CPD programs. The Philippines, for example, has implemented the Individual Plans for Professional Development, which provides in-service training to early childhood teachers during the summer on a number of topics including curriculum use, principles of teaching and learning, classroom management, and student assessment (Schaeffer, 2015). Universities are also increasing the supply of in-service training opportunities for early childhood workforce members. In Lesotho, for example, the Lesotho College of Education has established a two-year in-service training course for early childhood teachers to complement the Certificate in Early Childhood Education (UNESCO-IICBA, 2010).

However, there is considerable variation in *who* within the workforce has access to training and professional development opportunities. In many countries that have "split" ECEC systems, there are differentiated initial training programs for prospective teachers working with children in the 0 to 3 age group and those working with children in the 3 to 6 age group. Other countries, such as Finland, Slovenia, and Sweden, that have "unitary" or "coordinated" ECEC systems have a single training route and a

professional profile for all educational staff across the whole system. Given that training programs vary considerably by the type of service provider, it is difficult to make generalized observations of the content of courses (SEEPRO, 2010). However, typically, in split systems, those working with younger children tend to receive less training, ranging from no training at all to some post-secondary training (Sun, Rao, & Pearson, 2015). Among OECD countries, the training of lead child care workers who work with 0- to 3-year-olds tends to remain at the secondary, vocational, or associate level (OECD, 2006). Alternatively, those working with children in the 3- to 6-year-old age group are typically trained at the tertiary level (OECD, 2006).

Similarly, formal requirements for the professional preparation and development of auxiliary staff and assistants are either non-existent or very minimal (Urban et al., 2012). In the ECEC field, the distinction between the types of training offered to core practitioners (which includes teachers, educators, pedagogues) and assistants or other auxiliary staff is significant, largely due to distinctions made between "education" and "care." As a result, the types of training and professional development opportunities available to assistants and the general importance ascribed to them vary greatly. In Denmark, for example, while some local governments provide core practitioners with time for engaging in in-service training opportunities, this is less usual for assistants, despite having the same schedule and working with the same children and families (Van Laere et al., 2012).

Exceptions, however, do exist; in the Netherlands and France, for example, all ECEC practitioners, irrespective of their profile, have the same opportunities and obligations regarding training and professional development (Van Laere et al., 2012). Slovenia and Sweden are the only European Union countries that require a three- to four-year upper secondary vocational qualification for all auxiliary staff. Slovenia also requires teacher assistants to participate in five days of in-service training per year (Van Laere et al., 2012). Similarly, in the social and child protection field, there have been a number of efforts in recent years to increase access to in-service training opportunities for all categories of the workforce. For example, in Côte d'Ivoire, since 2010, 1,315 social work assistants have been trained by the Institut National de Formation Sociale (INFS) and have access to on-the-job training in OVC care and support, monitoring and evaluation, child protection, and project management (GSSWA, 2016).

Due to the location of many universities and training institutes in urban areas, rural and remote populations may also have limited access to training and professional development opportunities. One promising strategy that countries have adopted to reach rural, remote, and underserved populations is distance learning. In Eastern and Southern Africa, for example, the Regional Psychosocial Support Initiative (REPSSI) offers an innovative 18-month accredited distance-learning certificate course in community-based work with children and youth (McCaffery & Collins, 2013). Similarly, the Early Childhood Development Virtual University (ECDVU) uses web-based learning and benefits a large number of ECEC leaders (e.g., ministry officials, teacher trainers, NGO managers) in Africa. However, despite growing interest in distance learning programs, there are concerns around the cost and access to technology required to participate in these programs. Additionally, concerns over the quality of these programs have also emerged, particularly given that many distance education programs lack a field component and other opportunities for more hands-on learning. In addition, without careful student support as provided by the ECDVU, a high percentage of students from rural and impoverished communities tend to drop out of distance learning programs (Vargas-Barón, 2005). These programs may also require regular review to ensure that they are up to date (CECED, n.d.).

3. Limited financial support for training and professional development can further inequities in access.

Despite growing recognition of the importance of training and professional development, these opportunities may be limited due to the financial resources available to support members of the workforce. Some systems provide more robust financial support, such as in New Zealand, which funds inservice support for the first two years of ECEC teachers' induction and mentoring program. In other systems, support for training programs may be part of broader public works and workforce development programs. For example, in South Africa, under the ECD component of the Expanded Public Works Programme, which aims to upgrade the quality of existing ECD services and also support the expansion of the sector overall, government funding is available to support training fees and stipends for prospective and existing practitioners working with children ages 0 to 4 and in Grade R (pre-primary) (Biersteker, 2008; Giese et al., 2011). Similarly, in Singapore, in addition to scholarships and training awards provided to ECD practitioners by the Early Childhood Development Agency (ECDA), the SkillsFuture program, an initiative of the Council for Skills, Innovation, and Productivity, offers funding opportunities, such as a 90 percent course subsidy for mid-career ECD professionals over the age of 40 to take part in courses to upgrade their qualifications (SkillsFuture, 2016).

However, in other systems, ECEC teachers are required to pay for their own in-service training, even when it is government-run, as is the case in Ghana (Education International, 2010). In the U.S., support for inservice training is differentiated across roles. A survey of center-based infant and toddler teachers and staff found that those with graduate or professional degrees received the most support for direct costs like tuition, whereas teachers and staff with an associate degree in a field unrelated to ECE were the least likely to receive this type of support (Madill et al., 2016). In addition to furthering inequities in terms of who has access, limited resources can impact quality of programs; for example, in many countries that have limited resources for ECD, in-service training programs may be short, intermittent and fail to provide ECD professionals with adequate support. In an effort to address challenges related to access and quality in the education sector overall, the ILO has proposed a minimum investment target of one percent of the teacher payroll per year to support in-service training of teachers across all levels (ILO, 2011). Several countries have already explored different approaches to providing financial support for early childhood personnel to participate in training and professional development programs in order to stem such inequities (See Box 2 about Australia's experience).

Box 2: Australia's efforts to improve access to training and professional development in ECEC

In recent years, Australia has made a series of reforms in ECEC, resulting in significant efforts to improve access to training and professional development opportunities for members of this workforce. Reforms have been guided by the National Early Childhood Development Strategy (2009), the Early Years Learning Framework (2009), and the Early Years Workforce Strategy (2012-2016). These strategies have led to the greater integration of early childhood education and child care into one field. Prior to this, the training and professional development opportunities available to early childhood education staff differed significantly from those available to child care staff. Under an integrated approach to ECEC, Australia has opened up training opportunities to child care staff that were previously only available to education staff. Simultaneous efforts to increase financing for training and professional development opportunities, and to build a platform of online and distance learning courses have also helped improve access to training and professional development.

With an integrated approach to ECEC, a number of states, particularly Victoria, have adopted "shared professional learning", whereby child care and early childhood education/kindergarten staff now have access to the *same* in-service training opportunities. In Victoria, these professional learning opportunities include training in family-centered practice, working collaboratively across disciplines, and delivering inclusive services. Access to a wider set of professional development opportunities has provided child care workers and early childhood educators with a more enriching experience that supports work with children across the 0 to 8 age group.

In addition to broadening the scope of training and professional development opportunities available to the ECEC workforce, there have been a number of efforts to help finance access to both in-service and pre-service ECEC opportunities. Both the central and state governments offer some subsidies for training through fee waivers, student loan waivers, and direct government support to training institutions. For example, to increase access to and enrollment in diploma and advanced diploma programs at Technical and Further Education (TAFE) institutes (government-sponsored providers of VET courses), the Australian Government waived course entry fees between 2009-2014 (Australian Government Productivity Commission, 2011). Efforts have also been made to subsidize training for unqualified existing ECEC staff and family day care educators (educators who provide education and care for children in the educators' own homes rather than in a school or daycare setting) seeking to complete certificate-level courses. Between 2006 and 2010, the number of unqualified ECEC staff undertaking studies grew by 57 percent as a result of these subsidies (Australian Government Productivity Commission, 2011).

Efforts have also been made to increase the number of trained ECEC professionals in rural and remote areas, as well as increase access to opportunities for training and professional development for Aboriginal, rural, and remote populations. A number of scholarships are available to Aboriginal populations seeking to pursue coursework in ECEC. For example, the state of Victoria offers scholarships of varying amounts for a range of ECEC certificate, diploma, and degree programs for Aboriginal populations. In addition to providing financial support as a means of increasing access, Australia has also made a concerted effort to create more online and distance learning courses. Education Services Australia (ESA), a government-owned company, offers a number of online courses and programs in a variety of ECEC topics. Simultaneously, given that rural and remote areas have lower access to ECEC services, the Australian Government has allocated A\$12.4 million that can be used in the form of subsidies for recent graduates toward paying the cost of their degree on the condition that they work in these areas and other areas of high need (Australian Government Productivity Commission, 2011).

Through providing financial incentives and taking different approaches to financing training and professional development programs, Australia has made significant efforts to increase its share of trained ECEC personnel. However, there is still considerable variation between states; for example, some states, such as Victoria, allocate a significant amount of funding toward ECEC while other states have devoted far fewer resources to training the ECEC workforce. Additionally, while Australia has made significant efforts to increase access to training and professional development opportunities, the recent shift toward privatization of training providers has resulted in some concerns about the quality of these opportunities. Moving forward, efforts may need to be made to ensure consistent and high quality across training programs.

Sources: Productivity Commission. (2011). Early childhood development workforce: Productivity commission research report, Commonwealth of Australia.

4. Variation in duration, structure, and intensity of training programs has quality implications.

There is much variation in the duration of different pre- and in-service training opportunities. While access to shorter training programs can be beneficial to early childhood workforce members who are unable to participate in full-time or degree programs, the duration and intensity of programs are important for the quality of training and professional development opportunities and can impact children's learning outcomes. Short, "one-shot" workshops, for example, typically provide participants with limited information on topics and do not systematically cover all areas necessary for the provision of high quality services (Burchinal et al., 2010). While evidence on the relationship between program duration and service quality is limited, studies do suggest that more intensive, longer-term and regularly scheduled training and professional development opportunities allow for practitioners to develop a greater range of in-depth knowledge pertaining to their field. For example, results from a study comparing three forms of pre-primary education in Cambodia show a linear relationship between the intensity and duration of pre-service training and effect sizes on learning (Yoshikawa & Kabay, 2015).

The ways in which programs are structured also impact the quality of training provided. For example, a meta-analysis of pre-service training studies, primarily from the U.S., found that specialized training programs following a fixed curriculum, whereby the curriculum content was the same for all trainees, had larger effects on professional practices than programs with curricula that were open in content (Fukkink & Lont, 2007). Additionally, research on CPD programs found that intensive programs with a video-feedback component tend to be more effective for short-term training. In CPD programs lasting over a year, the incorporation of pedagogical guidance and coaching in reflection groups also might be more effective in sustaining the quality of ECEC services over long periods of time (Eurofound, 2015). The inclusion of these key components in the overall structure of training and professional development programs, therefore, tends to have an impact on service quality.

There is also some evidence from ECEC to suggest that training programs that are specialized or focused on specific topics in early childhood education and child development can have a positive effect on teaching practices and children's learning outcomes. For example, it has been found that ECEC practitioners with specialized training and higher education generally engage in positive adult-child interactions, including praising, comforting, questioning, and responding to children (Litjens & Taguma, 2010). Similarly, a systematic review of in-service ECEC programs in the US found that coaching programs focused on specific practices to support training in language and literacy were associated with improved outcomes among children in these domains (Isner et al., 2011).

5. Training and professional development opportunities may be enhanced when aligned with competences and standards for roles and with guidelines for training providers.

Competence-based approaches to training and professional development help learners focus on specific areas based on their individual needs and the knowledge and skills identified as being important for their job performance as well as the expected service and personnel standards, regulations and procedures used in their program. These approaches may also support the standardization of skills and knowledge imparted by diverse training providers present in the early childhood field as well as continuity between pre- and in-service training. Typically, competences for a particular role are defined and then steps and standardized procedures are articulated for acquiring them. (See Box 3 for more information on Singapore's experience developing a competence-based approach to training and professional

development.) In addition to the advantages that articulating competences may have in tailoring training and professional development to the needs of the early childhood workforce, where systems have standards in place, there are incentives for workforce members to participate in training and professional development programs in order to be eligible to take on particular roles. For example, in countries where there are high levels of training among ECEC staff, it is often in part due to the fact that there are standards which explicitly lay out training requirements (ILO, 2012).

However, training and professional development opportunities may be offered by a range of providers which can result in significant variation in the content of programs. In Ethiopia, for example, training of ECE teachers is carried out by government, NGOs, and the private sector. Since there are various actors involved and because there is no established national preschool teacher education policy or guidelines, it can be difficult to gauge the quality of training programs (Sun, Rao, & Pearson, 2015). While training programs should be contextualized based on practitioners' needs, location, and level of experience, the lack of guidelines for training providers and clearly defined competences for particular roles makes it difficult to determine whether there is alignment in the topics and skills covered in these programs. In order to address such issues, in Uganda, the Ministry of Gender, Labor, and Social Development (MGSLD) has streamlined training programs to ensure national standardization among all local government social workers, which has facilitated the development and institutionalization of professional training curricula (GSSWA, 2016).

Box 3: Singapore's Continuing Professional Development Masterplan

In recent years, Singapore has made significant progress and reforms in ECEC. An important transformation in ECEC has been the establishment of the Early Childhood Development Agency (ECDA) in 2013, as a single, unified entity to oversee all ECEC-related activities. Prior to ECDA, Singapore's ECEC system was divided according to the two types of ECEC services offered to young children – kindergartens, which were overseen by the Ministry of Education, and day care centers, overseen by the Ministry of Social and Family Development. Without a centralized body to oversee these two services, Singapore's ECEC system lacked cohesion. The establishment of ECDA has not only served to harmonize government regulation over kindergarten and day care center services, but has also fueled a number of efforts to strengthen and support the ECEC workforce. One such effort is the Continuing Professional Development (CPD) Masterplan (2013), which grew out of the Continuing Professional Development (CPD) Framework (2012).

Without clearly defined competences and career pathways for its ECEC workforce, Singapore lacked a strong foundation for continuing professional development opportunities. While efforts to address these issues had been made by Singapore's Workforce Development Agency, it wasn't until the formation of ECDA and the establishment of the CPD Framework and Masterplan, that competences and career pathways were identified and able to support the system for in-service training and professional development. Furthermore, while CPD opportunities existed before the launch of the CPD Framework, these opportunities were limited and were not housed in a centralized system. Without an overarching set of guidelines and a framework, the content of these programs varied tremendously. Additionally, prior to the launch of ECDA and the CPD Framework, there was no centralized body or resource in place to direct members of the workforce to existing CPD services.

In an effort to address both the limited opportunities for CPD and the lack of clearly defined competences and career pathways, the Ministry of Community Development, Youth and Sports launched the CPD Framework in 2012. The Framework, which recommends 20 hours per year of CPD for all ECEC workforce members, includes the following components: 1) a lattice of core competences comprising four core knowledge domains; 2) a toolkit and planner that serves as a guide for educators and supervisors to develop a professional development plan for teachers and themselves using the core competences lattice and; 3) a list of resources and suggested CPD activities in which child care and kindergarten personnel can participate including conferences, seminars, workshops, mentoring, and learning communities. The CPD Masterplan, launched in 2013 by ECDA, builds upon these three components, offering: 1) a structured professional development roadmap that outlines key competences and responsibilities for various roles in the ECEC field; 2) core and milestone CPD courses developed in consultation with the ECEC field and; 3) incentives and recognition, such as bonuses and expanded job roles, for ECEC workers who have fulfilled the recommended CPD hours and courses, and gained a minimum number of years of experience in the sector.

Each of these components plays a key role in preparing ECEC workforce members for smooth progression within the workforce. The professional development roadmap provides workforce members with a vision of how to progress within or across each of the three ECEC tracks – the leader track, teacher track, and educarer track. The core and milestone courses provide workforce members with the knowledge and skills needed to advance in their career, with the core courses covering content along four areas (child development; learning environments & curriculum; family and community engagement; and management, administration, and leadership), and the milestone courses specifically designed to prepare educators for roles with higher responsibilities. To monitor participation in these courses and professional growth, ECDA has also established an online portal for teachers to plan and track their individual CPD roadmaps. Since CPD is not mandatory, incentives and recognition motivate ECEC workforce members to engage in these programs.

The establishment of a CPD Masterplan in Singapore has elevated the importance of CPD programs in supporting professional growth and improving service quality. Challenges do, however, persist in regard to funding workforce members' participation in these programs. Furthermore, since participation in these programs is not required, it is unclear what the impact of this Masterplan has been thus far. As this Masterplan is still in the early stages of implementation, its experience may provide insight for other systems.

Sources: Ministry of Social and Family Development (n.d.). Achieving excellence through continuing professional development: A CPD framework for early childhood educators, Ministry of Social and Child Development; Early Childhood Development Agency (n.d). A good start for every child. Retrieved May 21, 2017, from https://www.ecda.gov.sg/pages/default.aspx

6. Training and professional development curricula need to address the particular needs of the workforce to be relevant to local contexts.

Training and professional development curricula are often not tailored to local contexts, and as a result, may not prepare early childhood workforce members to address issues that are relevant to the communities and populations they serve. Research from the social and child protection sector in West and Central Africa, for example, indicates that training materials and curricula are often imported from other countries such as the US and the UK, and are inadequately adapted to local realities (Canavera et al., 2014). For example, these imported training materials and curricula may obscure community-based responses to challenges, which have historically played an important role in African countries, in favor of Western modes of social welfare (Davis, 2009). While some countries, such as Burkina Faso, which follows a structured, ongoing process of curriculum review involving a broad range of stakeholders, may have more relevant training curricula, the vast majority of countries in this region rely on Western training materials and curricula.

In recent years, calls for more culturally relevant training materials and methods have emerged. However, while discussions surrounding the 'indigenization' of social work curricula are underway, there are often limited human and financial resources to develop local social work curricula and materials (McCaffery & Collins, 2013). This may be partly linked to the limited number of advanced degree programs in low- and middle-income countries. In the West and Central Africa region, for example, only two countries offer PhD programs in social work – Nigeria and Ghana. The lack of PhD holders impacts the ability to recruit qualified faculty to teach master's level students, carry out research, and develop country-specific and evidence-based curricula (GSSWA, 2015). The scarcity of advanced degree programs may also impact the number of future influential members of governing bodies who are able to impact policy development, program and strategic planning, training, and fundraising (GSSWA, 2015).

Despite these challenges, efforts have been undertaken on a smaller scale to develop more culturally relevant training and professional development curricula (See Box 4 on efforts to adapt the Care for Child Development model in Mozambique). For example, the Aga Khan Foundation Madrasa Resource Centers in Kenya, Uganda, and Zanzibar provide teacher education and preschool curricula that are closely connected to the local contexts in which the resource centers are located. Teacher training is focused on preparing teachers to use local stories and languages, culturally-relevant child-rearing practices, and locally-available resources. Most importantly, teachers are trained to promote strong links with families and parents, and to be able to understand and address the needs and priorities of the communities in which they work (Sun, Rao, & Pearson, 2015).

Box 4: Integrating Early Childhood Screening and Counseling for Health Workers in Mozambique

Chronic malnutrition is high in Mozambique. In 2011, 43.1 percent of children under the age of 5 were stunted. To respond to this and other challenges facing young children and their families, in collaboration with the government of Mozambique, PATH (an international NGO) has been providing support to community and facility-level health workers to integrate early childhood development screening and counseling for the youngest children (0 to 3) in their routine work. While initially working through community-based organizations, PATH expanded its approach in 2013 to focus largely on government workforces, such as CHWs, in an effort to achieve scale and sustainability. To understand how best to integrate these services into the health sector, PATH carried out a formative assessment to determine to what extent nutrition and stimulation were already a part of government norms and tools and how these were implemented in relevant service touchpoints. This needs assessment identified the gaps in existing government services and also highlighted the potential of clinicians and CHWs to better integrate early childhood development screening and counseling into their work. PATH's work in Mozambique has influenced its model implemented in Kenya and South Africa, where the organization has also worked with the government to support clinical providers and CHWs to routinely integrate nutrition and simulation counseling into their work. PATH has also worked at the national and subnational level with relevant ministries to create policies, norms and standards to propel the work towards greater scale.

In order to onboard clinicians and CHWs, PATH has provided 4 to 5 day-long trainings, which include a mix of classroom-based learning and practical, hands-on training. Hands-on training involves clinicians and CHWs in practicing screening and counseling in their normal work contexts. Following this initial training, community health workers and clinicians receive mentoring visits, during which government and PATH mentors utilize an adapted WHO/UNICEF 24-item checklist to evaluate trained providers' progress in the areas of interpersonal skills, nutrition, and developmental screening and counseling. The use of the checklist helps identify areas in need of improvement and tailor additional support to individual providers' needs. Once a clinical provider scores 80 percent on the checklist during two consecutive visits, they are ready to graduate from the mentoring program and will only be supervised once a quarter. Beyond this mentoring support, CHWs receive a one-day refresher training each quarter, with clinicians receiving refresher trainings on an as-needed basis. Thus far, the training model has been met with great success - a recent study of a small sample of clinicians receiving training found that only 25 percent of clinicians provided nutrition counseling before receiving training from PATH, while an overwhelming 92 percent did so after receiving training and at least 2 mentoring visits.

PATH utilized resources from the Care for Child Development (CCD) package, such as a participant manual and counseling cards, as a starting point for developing training materials. These materials were adapted in each country to meet the particular needs of young children and families. For example, due to the tremendous linguistic diversity in Mozambique and low literacy levels, PATH made the decision to use pictures in the training and counseling materials as much as possible. These visual tools are used as a basis for generating discussion and facilitating interactive exercises, and have been well-received by health workers.

To date, 188 CHWs and 250 clinicians have been trained in Maputo province. As the program looks to scale up, PATH is working with the government of Mozambique to embed training for CHWs and clinicians into existing government training for health workers, for example, in pre-service modules and in-service clinical sessions for nurses around maternal and child health. In addition to reaching more health workers, it is hoped this will help secure CHWs and clinicians' time to participate in initial training. Also, while PATH delivered training to providers during the first phase of this work, it has transitioned to a train the trainers model, whereby PATH trains key program heads who then train, mentor and supervise CHWs and clinicians. Overall, PATH's experience in Mozambique has underscored the importance of tailoring training materials and support to the needs of a particular context and utilizing existing resources and entry points for delivering training.

Sources: PATH. (Forthcoming). "Scaling up early childhood development in Mozambique: Clinical mentoring in Mozambique." Seattle: PATH; World Bank Data. Data.worldbank.org. Accessed May 20th, 2017; UNICEF and WHO. "Care for Child Development Package." <u>https://www.unicef.org/earlychildhood/index_68195.html</u> Accessed on May 20th, 2017.

Involvement from different stakeholders in the curriculum design process can support the development of relevant training and professional development opportunities. Experience from the social and child protection sector has shown that curriculum development for training programs is particularly beneficial when done through a consensus process that engages multiple stakeholders such as national government duty bearers, university academics, and NGO practitioners. For example, in Moldova, a working group was established that brought together a range of stakeholders to develop a curriculum for foster care providers (Better Care Network & GSSWA, 2015). (See Box 5 for more details on Moldova's approach). In addition, the DaCUM (Develop a Curriculum) method, which involves local practitioners and informants in the process of designing training programs, has been used as a tool to learn more about local knowledge sources and learning practices. This method has been used in Afghanistan, Sri Lanka, and Ghana, to develop more culturally relevant social work curricula (Roby, 2016). In Afghanistan, for example, the DaCUM method was used as part of the government's National Strategy for Children at Risk (2006), which called for the development of a cadre of trained social workers to support child protection. In this method, local stakeholders, including representatives of relevant Afghan organizations promoting human rights, women's rights, and child rights, as well as representatives from relevant government ministries, were involved in developing a set of National Skills Standards and social work curricula (Bragin et al., 2014).

Box 5: Moldova's efforts to develop a skilled social and child protection workforce

Over the past 20 years, Moldova's social and child protection system has transformed considerably, and the country has made significant strides in establishing a diverse and well-supported child protection workforce. Upon independence in 1991, Moldova's social and child protection system relied on state-owned residential care institutions as the primary form of child protection. Under this system, minimal effort was made to reintegrate children into family care and prevent separation, and there were little to no family support services or alternative family placement services. Furthermore, the social and child protection workforce was limited to those working in residential care institutions. Since then, the government, in collaboration with a number of NGOs have passed a series of reforms to de-institutionalize the child protection system and diversify the workforce to be able to meet the varied needs of orphans and vulnerable children (OVC).

The establishment of a Ministry of Social Protection, Family, and Child (MSPFC) in 2006, later renamed the Ministry of Labor, Social Protection and Family, was important in centralizing responsibilities for the reform efforts in the social and child protection field. Under this Ministry, key reforms were passed, including the National Strategy and Action Plan for the Reform of the Residential Childcare System (2007), followed by the National Strategy for Child Protection (2014-2020). These strategies aimed to establish a network of community social workers, develop a greater range of protection and support services for OVCs and families, and prioritize the training and professional development of social and child protection workers. Additionally, prior to these reforms, efforts to professionalize the social and child protection field were already underway, with the establishment of university-level social work programs in 1997.

Certain elements of Moldova's reform have made it particularly successful in terms of diversifying and strengthening the child protection workforce. First, the establishment of a Ministry in charge of the social and child protection sector, and the subsequent passing of several reforms strategies – paired with the development of university-level social work programs - played a key role in prioritizing the workforce. Second, collaboration between the state and non-state actors has been vital to the reform movement. Working groups at the national level consisting of members of the government, local authorities, and NGO partners collaborated to address workforce needs, reviewed training curricula, and agreed on standardized competences and training agendas. These efforts have promoted consistency in training, roles, and the services provided by social and child protection. Moldova has recruited and trained workforce members from across the social assistance, child protection, health, and education sectors - including actors at the national, district, and community levels. Training professionals from different sectors to collaborate on identifying, reporting, assessing, care planning, and intervening in child protection cases, has been a major priority for Moldova. For example, government partners have trained school administrators, teachers, and other educational professionals on how to work with children with special educational needs and those who have been deinstitutionalized.

Currently, Moldova has four university-level and one-college level social work training programs and a network of over 1,000 trained social and child protection workers. Moldova's successes in expanding its social and child protection system have been a product of continued collaboration between the government and a range of NGOs and stakeholders across sectors.

Sources: Better Care Network and the Global Social Service Workforce Alliance. (2015). Working paper on the role of social service workforce development in care reform, Washington, DC: IntraHealth International.

7. Field education and other opportunities to gain practical skills are important components of initial preparation.

Field education is seen as a vital component of pre-service training for members of the early childhood workforce. A survey of schools of social work in Eastern and Southern Africa found that 68 percent of institutions have incorporated field education into their curriculum (Hochfeld et al., 2009). In West and Central Africa, the majority of social work programs require internships and practica (Canavera, Akesson, & Landis, 2014). In Burkina Faso, for example the national training program places a strong emphasis on practice, with internships included as part of the curriculum. These internships begin with a one-month

"observational" internship during the first year of training, followed by increasingly lengthy internships in years two and three in either government or NGO sites. Field internships may include work with government agencies or local civil service organizations and NGOs. Through these opportunities, students may be able to observe social work professionals in their day-to-day jobs, apply social work theories and principles to real life situations, experience the issues inherent in working with different underserved populations, and understand the importance of building relationships and empathy with individuals and communities (McCaffery & Collins, 2013).

Field education is often an important component of health workforce training. Rural internships are required for physicians, nurses, and other health providers in many Latin American countries, for example (Dussault & Franceschini, 2006). Often motivated by health workforce shortages in rural areas, universities and government training institutes are requiring students to complete rural field placements either during or immediately after their training. For example, in Thailand, students in rural areas receive subsidized training and professional development on the condition that they serve for two to four years in their provincial health office after graduating. During their initial training, students conduct their practical training at the location where they will work after graduation to familiarize themselves with their future working environment (Dussault & Franceschini, 2006).

Despite growing recognition of the importance of field education to pre-service training, challenges persist regarding the availability, implementation, and quality of field-based programs. In a number of countries, pre-service training opportunities continue to be theory-driven. A study on social work education in Eastern Europe found that university education in the region still relies heavily on theory (USAID, 2008). Additionally, where field education did exist, it had not been formalized with clearly set guidelines. In terms of quality, field instructors are often inadequately trained to supervise students in the field. Limited suitable placements and difficulty scheduling field hours with course requirements are also key issues (Hochfeld et al., 2009). In many instances, field work is integrated into training programs for the sake of meeting a requirement, and as a result, field placements are often short, lack structure, and offer limited opportunities for students to reflect on and process their fieldwork experiences.

8. In-service training and professional development opportunities are most effective when they are ongoing, tailored to individual needs, and incorporate peer learning.

In-service training and professional development opportunities may be delivered through a variety of formats. For example, members of the early childhood workforce may participate in refresher trainings on particular topics, participate in professional learning communities, or receive ongoing mentoring or coaching support. In general, however, while there is growing recognition of the importance of in-service training and professional development, training is often imparted through passive means, such as lectures, readings, and demonstrations. While this format of professional development may support members of the workforce to acquire new knowledge and skills, experience suggests the benefits of providing training on an ongoing basis, tailoring opportunities to individual's needs, and incorporating peer learning (Whitebook et al., 2009; Eurofound, 2015; Better Care Network & GSSWA, 2015).

In-service training that is ongoing in nature and offers opportunities for self-reflection are often valued more by participants than training offered through one-off or short-term sessions (Whitebook et al., 2009). A study of EU members states found that CPD interventions lasting over a year that are integrated into practice, such as pedagogical guidance and coaching in reflection groups, are effective in different contexts within ECEC – both in countries with a well-established system of ECEC provisions, and a high level of qualification requirements for ECEC workers, such as Sweden, as well as in countries with less

subsidized ECEC systems and low qualification requirements, such as Ireland (Eurofound, 2015). Research from Europe also indicates that for workforce members with little to no qualifications, ongoing training developed by specialized staff, and part of a coherent CPD policy, can yield beneficial effects equal to those of initial preparation. Alternatively, short-term in-service courses that are limited to a few days per year and that are not part of a coherent policy have proven less effective in raising the competences of workforce members with little or no qualifications (Urban et al., 2012). In addition, ongoing support is particularly important for roles where there is limited initial preparation. (See Box 6 on Training and Support for Paraprofessional Home Visitors in Latin America).

Box 6: Training and Supporting Paraprofessional Home Visitors in Latin America

In Latin America, home visiting programs often rely on a paraprofessional or volunteer workforce who have limited formal education. Once recruited, this workforce is often provided short and specialized training to guide their work in supporting young children and families in rural and remote areas. For example, in Brazil, in the Programa Infancia Melhor (PIM), most home visitors have a high school diploma, although not an explicit requirement, and upon entry into the program receive 60 hours of training. Similarly, in the Cuna Más program in Peru, many home visitors do have a high school diploma although the only official requirement is for them to be able to read, write, and speak the local language. At their time of entry into the program, home visitors receive one week of initial training which is followed up by refresher trainings throughout the year. Although many home visiting programs rely on a workforce with limited experience in supporting early childhood development, in the Consejo de Salud Rural Andino – Home Visit Program in Bolivia, home visitors usually have previous experience as community health workers.

Since initial training is often short and many home visitors lack previous experience, opportunities for ongoing support are particularly important. For example, in the case of Cuna Más in Peru, a regional professional is tasked with supporting 10 home visitors. In Brazil, in the PIM, supervisors meet with home visitors once a week to help them plan their visits and discuss relevant issues for each family that will be visited. However, in some contexts, supervision mechanisms may be weak as supervisors may lack sufficient knowledge and resources to support home visitors, complicated by the location of home visitors in rural and remote areas and their limited formal education. For example, in the Programa de Acompañamiento a la Implementación del Programa de Primera Infancia en Comunidades Priorizadas (PAIPPI) in Nicaragua, municipal technical supervisors are responsible for the direct monitoring and supervision of home visitors in three to 10 communities. Although these supervisors are officially required to have a certification in early childhood development, they often do not and have many other tasks within the municipalities where they work, limiting their engagement with home visitors.

Sources: Leer, J., Lopez Boo, F., Exposito, A., & Powell, C. (2016). "A Snapshot on the Quality of Seven Home Visiting Programs in Latin America & the Caribbean. Washington, D.C.: Inter-American Development Bank.; Josephson, K., Guerrero, G., & Coddington, C. (2017). Supporting the Early Childhood Workforce at Scale: The Cuna Más Home Visiting Program in Peru. Washington, D.C.: Results for Development Institute.

A recent study from Denmark found that providing ongoing support to preschool staff in the form of large group workshops, reflection groups, and conferences with pedagogical consultants had a positive effect on children's emotional symptoms, conduct problems, hyperactivity and inattention in the classroom (Jensen et al., 2013). Growing research in ECEC shows that intensive in-service training curricula that is combined with coaching can produce promising results in terms of improved classroom quality and child outcomes (Burchinal et al., 2008). Coaching offers opportunities for early childhood educators to receive and discuss regular feedback on their work, which may be promising in helping teachers become more effective in providing stimulating, high-quality instruction (Burchinal et al., 2008; Whitebook & Ryan, 2011). An evaluation of *Un Buen Comienzo* in Chile, an intensive two-year professional development program focused on providing continuous coaching for pre-kindergarten and kindergarten teachers, found that teachers and aides who participated in the program demonstrated improved interactions with children, and learned and practiced new strategies to enhance children's experiences. However, there

were no significant impacts on child outcomes after two years (Yoshikawa, 2014). Similar findings exist in the social and child protection sector. Evidence from Moldova shows that supervision mechanisms that provide case-by-case support for regional and community social workers working within care reform has helped workers feel less isolated, provided a means for one-to-one training, and enabled problem solving on difficult cases (Better Care Network & GSSWA, 2015).

The extent to which in-service training is tailored to individual needs is also a crucial factor in ensuring quality. Coaching programs which are based on identifying and addressing practitioners' individual needs, and setting achievable goals aligned with those needs can be useful in this regard. In order to achieve goals, a variety of activities may be conducted, including direct observation, reflection, and modeling of practices (Isner et al., 2011). Members of the workforce may also need support that addresses the specific needs of the children and families that they serve. Recent efforts have been made in training programs to address the needs of diverse groups of children, including refugees, children with special needs, and children from culturally and linguistically diverse backgrounds. For example, Australia's recently-launched Early Years Workforce Strategy (2012-2016) has laid out specific steps to enhance the capabilities and skills of ECEC educators in order to meet the needs of children with diverse needs and connect them with appropriate support services.

Additionally, in-service training that incorporates peer learning is valued as a mechanism for growth. Peer learning fosters the development of relationship-based learning and supportive communities among colleagues, often in similar roles. In a recent survey of Roma ECD professionals and paraprofessionals in ten countries in Europe and Central Asia, respondents rated knowledge exchange visits, involvement in a professional network of ECD experts, and study visits more highly than short-term trainings, seminars, and conferences, indicating the value of hands-on, practical training that involves interacting and learning from peers (ISSA, 2013). Similarly, research conducted on national efforts to strengthen the social service workforce in Indonesia, Moldova, and Rwanda, found that the use of peer learning was effective in building capacity, reducing isolation and burnout, and increasing support (Better Care Network & GSSWA, 2015). Furthermore, opportunities which encourage members of the workforce to identify their own challenges and consider ways of addressing them, such as peer learning, may empower practitioners to consider themselves as professionals and help them to elevate their status.

9. Roles are often not clearly defined which weakens training and professional development, and limits opportunities for career advancement.

Many countries lack clearly defined roles, terms of reference and/or detailed job descriptions for members of the early childhood workforce. For example, of 14 countries where job descriptions were requested for a study on the social service workforce in West and Central Africa, only two countries were able to point to existing ones (Canvera, Akesson, & Landess, 2014). Without clearly defined functions, titles, and educational requirements, pre-service training opportunities are at risk of being ineffective in preparing workforce members for their roles. At the same time, when functions, titles, and educational requirements are poorly defined, it is difficult to connect workers with training and professional development opportunities in the system in order to facilitate career advancement. Many countries lack career ladders/lattices which include performance requirements, evaluation, and salary scales keyed to those ladders.

Efforts have been made in several countries to develop pre- and in-service training programs that are closely aligned with pre-defined standards, roles, and career paths. For example, in Estonia, the EDUKO

program was launched in 2009 to strengthen the pre- and in-service training opportunities available to the ECEC workforce (European Commission, 2014). In the process of re-designing training programs, a series of studies were conducted that analyzed the views and opinions of preschool teachers and principals on their professional development. The results from the studies were then used to prepare professional standards for preschool teachers, and these standards are now used as the basis for teachers' and principals' initial and in-service training, and for career planning. In Vietnam, under the National Program on the Development of Social Work as a Profession (2010-2020), social work job descriptions have been approved and social work curricula and training programs are being developed at the university and vocational levels according to these descriptions (ECPAT International et al., 2014).

In addition to defining the roles and training and professional development needed to advance within a system, some governments have explored other approaches to incentivize participation in training and professional development opportunities which also support career advancement. For example, many states in the U.S. have implemented bonuses or monetary awards in recognition of educational achievement, depending on degree or credential levels achieved (Whitebook et al. 2016). Although overall compensation remains very low, these rewards may support and encourage staff to move to the next level in their career.

10. Rapid training of paraprofessional workers can be effective in addressing workforce shortages, and also provide them with opportunities for career advancement.

While a number of factors, such as low remuneration, high turnover, poor working conditions, and low status contribute to workforce shortages, limited access to pre-service training programs hinders prospective candidates from joining the field. Several countries, particularly but not solely in resource-poor settings, have used task-shifting, or the training of paraprofessionals or staff with lower qualifications to take on a greater range of services that sometimes are outside of their traditional roles, thereby increasing the supply of trained ECD workers. These paraprofessionals play an important role in increasing access to ECD services and expanding service coverage. In addition, paraprofessional workers can help strengthen existing ECD services by bringing culturally or community-specific knowledge to their practice. For example, a study examining the contributions of paraprofessional social workers and community health care workers (PSWCHW) to the protection and support of vulnerable children in Côte d'Ivoire found that children supported by paraprofessionals had greater access to relevant services (psychosocial support, education, legal support, and health care services) than children without this support (Muriuki, & Moss, 2016).

Similarly, Ethiopia's Health Extension Program has established a new cadre of community health workers by training selected community members to perform basic promotive, preventative, and certain curative activities typically performed by professionals (GHWA & WHO, 2010). While health extension workers offer a range of services to all age groups, they play a particularly important role in the lives of young children, offering a number of ECD-specific services such as antenatal care, nutrition counseling, immunization, and growth monitoring (GHWA & WHO, 2010). Some also provide parent education and present modules on child development. Such health extension workers receive one year of pre-service training and ongoing in-service support. Similarly, BRAC's Community Health Workers Program trains individuals to become community health workers, or *shastho sebikas*, who perform health education and promotion activities in five key areas – water and sanitation, immunization, health and nutrition, family planning, and basic curative services. The program offers four weeks of initial training, followed by monthly refresher training sessions over the first two years of service to community health workers involved in delivering services (GHWA & WHO, 2010). Tanzania's Para Social Work Program trains community volunteers in the delivery of certain basic social welfare services. The year-long training program teaches social work and child development skills that empower community-based workers and volunteers by improving their ability to identify, assess, engage, and link those in need to existing care and support services (Bunkers et al., 2014; McCaffery & Collins, 2013). The program model includes an introduction to para-social work, a six-month field practicum, and follow-up/refresher training. As of 2012, more than 4,000 para-social workers had been trained and deployed to management, ward, and village posts.

Rapid training of paraprofessional workers has proven to be effective in addressing workforce shortages, while also providing paraprofessionals with a diversified skill set and increased opportunities for career advancement (WHO, 2010). Despite the benefits of task shifting, pre-service training programs for paraprofessionals are often limited to only a few weeks or months, and in-service training opportunities may not always be frequent or provided at all. The short duration of many of these training programs leaves limited time for paraprofessionals to develop the skills needed to carry out a diverse range of services. At the same time that training may be insufficient for supporting paraprofessionals to adequately deliver services to young children and their families, there is a risk that over-reliance on this approach might detract from investments needed to fully develop professional human resources for early childhood development services (see Box 7 for more details on Pakistan's experience with task shifting in the health sector).

Box 7: Lady Health Workers in Pakistan: Experiences of paraprofessionals who support the health system

Pakistan lacks a sufficient workforce to deliver health services as there are few health managers, nurses, paramedics, and skilled birth attendants; the challenge is particularly acute in rural communities and urban slum populations. At the same time, there are severe health challenges facing young children and their families. For example, while infant mortality was 42 per 1,000 live births in the South Asia region, it was 66 per 1,000 live births in Pakistan in 2015. In response to these challenges, Pakistan's Lady Health Workers Program (LHWP) was implemented by the Ministry of Health in 1994 to support the primary health care system, including specifically young children and their families. Lady Health Workers (LHWs), who visit households on a monthly basis, provide family planning, health education, case management of acute respiratory infection, growth monitoring, mental health screening, and referral to local health facilities. LHWs are recruited from within the communities they serve, and are connected to health facilities, from which they receive training and support, and to which they refer clients. A recent experiment also explored the integration of the Care for Child Development model for parenting support as well as enhanced nutrition support in the daily work of LHWs, which was found to have a significant impact on children's cognitive and language development at 24 months of age.

LHWs are recruited from communities without any formal health training. They are required to have eight years of schooling, and once they enter into the program, are trained in two phases over a period of 15 months. In the first phase of training, those recruited into the role of LHW are trained for five days a week for a period of three months. Topics covered during this initial training include immunization, diarrhea control, maternal and child health, family planning, nutrition, and personal hygiene. In addition to training on these specific topics, LHWs are trained on skills such as community organization and interpersonal communication. After the initial three-month training, LHWs are trained for another 12 months. During this second phase, LHWs work in the field for three weeks at a time, which is followed by one week of classroom training per month. Once LHWs complete this initial 15-month training period, they receiving ongoing training one day each month at their respective health facility/training center on specific topics. These ongoing training days also involve sessions where LHWs discuss challenges that they face in their work with trainers.

Although LHWs fill an important gap in the health system, the LHW program has been implemented in parallel with other investments in the health workforce, including expansion of the number of physicians and nurses. Furthermore, experience demonstrates that LHWs are most effective when they complement professional health care providers and provide a connection between the community and the formal health system. As they occupy a peer status among community members, they can help navigate local customs, languages and social relationships. For example, while LHWs are not directly responsible for giving immunizations, they play an important role in facilitating immunization by connecting residents to facilities that deliver these services. Between 2000 and 2008, the LHWP facilitated increased coverage of child immunization from 57 to 68 percent in the communities where it operates. However, in some rural communities where there is poor access to health facilities, LHWs may have few options for referrals, which can undermine the support that they provide in communities. Although the LHWP has faced challenges including noncompliance among several LHWs and difficulty in recruiting women from rural and remote areas, the program has largely been successful and provides an interesting model for other countries looking to rapidly train lower qualified workers to support young children and families with health and nutrition services – as well as potentially early stimulation.

Sources: Peers for Progress. 2013. "Pakistan's Lady Health Workers: A National Model for Primary Healthcare and Peer Support."; Zhu, N., Allen, E., Kearns, A., Caglia, J., & Atun, R. 2014. "Lady Health Workers in Pakistan: Improving Access to Health Care for Rural Women and Families."; Hafeez, A., Mohamud, B., Shiekh, M., Shah, S., & Jooma, R. 2011. "Lady Health Workers Programme in Pakistan: Challenges, Achievements, and the Way Forward." *Journal of Pakistani Medical* Association 61(3):210-5.; WHO and Global Health Workforce Alliance. "Pakistan's Lady Health Worker Programme."; World Bank Data. http:// data. Worldbank.org; Yousafzai, A., Rasheed, M., Rizvi, A., Armstrong, R., & Bhutta, Z. 2014. "Effect of integrated responsive stimulation and nutrition interventions in the Lady Health Worker programme in Pakistan on child development, growth, and health outcomes: a cluster-randomised factorial effectiveness trial." *Lancet.* Vol 384, No. 9950, pp. 1282-1293.; Global Health Workforce Alliance and World Health Organization. 2010. *Global Experience of Community Health Workers for Delivery of Health Related Millennium Development Goals: A Systematic Review, Country Case Studies, and Recommendations for Integration into National Health Systems.*

Conclusion and questions for reflection

Training and professional development opportunities provide critical knowledge and skills to members of the early childhood workforce, however, lowered access among specific sub-groups and varying quality, emanating from a range of factors including the length of programs, incorporation of practical experiences, and relevance to local contexts, limit their potential for impact. While this report highlights some examples from which others can learn as they seek to improve access to and quality of training and professional development opportunities, policymakers may want additional guidance to reflect on their own approaches and how support for the early childhood workforce may be strengthened. As countries consider how best to develop and integrate training and professional development in their systems, a number of questions might guide this process, including the following:

- Are there pre- and in-service opportunities available across the workforce, including for rural and remote populations, auxiliary staff and those who work with the youngest children?
- Are existing training and professional development opportunities aligned with competences for roles and job descriptions?
- What practical training is offered through pre-service programs? Are members of the early childhood workforce sufficiently prepared to enter into their roles?
- What in-service opportunities are available and how are they relevant to the day to day work of members of the workforce?

Areas for further research

This study underscores the importance of training and professional development for supporting and strengthening the early childhood workforce. While this study advances existing knowledge on the early childhood workforce by synthesizing for the first time data on training and professional development experiences from across sectors, regions, and roles, many gaps remain at the program and systems levels.

First, at the program level, while we know that the structure and format of training and professional development opportunities matter for quality, there is little evidence regarding specific factors that impact child outcomes, with most of the evidence coming from the education sector. In addition, as there are increasing efforts to deliver integrated services across sectors, more research is needed on how best to provide training to professionals and paraprofessionals in multi-disciplinary teams.

Second, at the systems level, we know that the costs of providing training and professional development opportunities can be major barriers in scaling them up. However, we know very little about how much countries spend on relevant training and professional development programs, how much high-quality training programs cost, and what percentage of budgets should be devoted to pre- and in-service training to meet current and future needs. Further research should address these questions in order to contribute to dialogue and policy efforts to strengthen support for the early childhood workforce.

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Annex – Typology

The Early Childhood Workforce

Definition

The early childhood workforce consists of the volunteers, paraprofessionals, and professionals who promote the healthy growth, development, and learning of young children (under age 8). This diverse workforce, which is supported by a broad ecosystem of actors, is defined as the frontline workers who deliver services to young children and families, as well as those who directly train, supervise, and manage these practitioners.³⁴ Whether employed by government or non-state actors, this workforce operates within and across a variety of sectors, including health and nutrition, education, and social and child protection. While these workers may share common objectives, the specific sectors and settings in which they work, as well as their functions, training, and remuneration can vary significantly by context.

Typology

Primary sector ³⁵	Role ³⁶	Description of role and settings (specific to ECD)	Other titles
HEALTH AND NUTRITION ³⁷	Auxiliary nurses & auxiliary midwives	Auxiliary nurses and midwives are paraprofessionals with more limited training than their professional counterparts. They are typically trained at the secondary level, have basic nursing skills and/or midwifery competencies, and assist in the provision of maternal and newborn health care.	Nurse's assistants or aides

³⁴ Except when fulfilling the role of trainer or supervisor, policymakers/government actors and academics are not explicitly included in this definition or typology, despite a recognition of their essential role in developing and supporting early childhood systems that employ this workforce. In addition, while invaluable to the day-to-day operations of early childhood development services, those who provide secondary support (such as cleaners and cooks) are not covered here.

³⁵ "Primary sector" refers to the sector where a professional or worker traditionally receives training and is often, though not always, employed. Many of these professionals/workers are employed in secondary or allied sectors (e.g. nurses or psychologists in preschool settings) or are cross-sectoral in nature (e.g. early intervention specialists, increasingly home visitors).

³⁶ Where available, "Role" refers to existing terms established by international bodies, such as the International Labour Organization, the Global Health Workforce Alliance, and the Global Social Service Workforce Alliance. As such, these may not be the exact titles used in many countries or regions, but rather are umbrella terms for similar roles and professions (variations in these titles are included in the last column, "Other titles").

³⁷ Health workers, including all roles listed here, often provide care throughout the life course. In many places, health workers are the caregivers most likely to interact with pregnant women and children during the earliest years of life, when brains are being formed and appropriate interventions can contribute to school readiness, resilience to toxic stress, good nutritional status, and lifelong health and wellbeing.

Community health workers	Community health workers (CHWs) help link local communities with the formal health system by increasing access to essential health and social services. CHWs are typically adults educated at the primary or secondary level that are selected from and work in the community from which they come. Depending on the context, they provide a range of health promotion, disease prevention and treatment interventions to the residents of the communities in which they work. In most contexts CHWs focus on young children and mothers and, with respect to ECD, provide orientation to families (through group education and home visiting) promoting key family practices for maternal, newborn and child health and nutrition (such as exclusive breastfeeding, immunizations), as well as refer young children and pregnant women with signs of severe illness or complications to the formal health system. In some contexts, CHWs are responsible for community case management of illness and acute malnutrition. CHWs have also been supported to work with parents to promote early stimulation and to implement community-based therapeutic interventions for women with mental health problems.	Health extension workers, lay health workers, community health promoters, traditional birth attendants, village health workers
Home visitors	Home visitors/parent educators may be paraprofessionals educated at the secondary level or professionals trained at the university level (in many contexts nurses or CHWs may work as home visitors). They make frequent and regular visits to at-risk families (often the primary caregiver) and young children (often under 3 years) to promote positive parenting practices and healthy child development within the home environment. Home visitors have often focused on maternal and child health and nutrition, but increasingly incorporate parenting practices, care, and early childhood stimulation activities. In addition to health services and programs, home visitors can be employed by social services, education programs, etc.	Parent educators, caregiver educators, health visitors
Nurses & midwives	Nurses and midwives are registered professionals who play a core role across all tiers of formal health systems (including extension services, health posts and primary hospitals, and the tertiary level). Nurses provide a continuum of health services but, specific to ECD, nurses and midwives may provide antenatal, essential obstetric, and postnatal care to women and newborns; support well-child visits, immunization, growth monitoring, and case management of acute illnesses; and counsel parents on key family practices for their children's healthy development.	Registered nurses, nurse practitioners, health visitors ³⁸
Medical doctors (generalists, specialists such as pediatricians, neonatologists)	Doctors are registered professionals that work at all levels of the formal system and, in many countries, they also help to define systems of care and provide training to health workers at all levels. With respect to ECD, they are responsible for providing antenatal care, essential and emergency obstetric and newborn care, and for the treatment of acute illness. They are often responsible for well-child visits and may use these as opportunities to counsel parents on responsive care and early stimulation. They also conduct developmental screenings and refer children at risk of developmental delay and/or disability for specialized early intervention services, where these exist. In many contexts they are part of child protection mechanisms, and are trained to identify and refer children victims of abuse, neglect or domestic violence. They may also provide mental health services, including for maternal and paternal depression.	Physicians, dentists, clinicians

³⁸ Similar titles (e.g. health visitors) may be used for slightly different functions, depending on the context.

	Nutritionists	Nutritionists are experts in the field of nutrition and food that advise what people should eat to be healthy. With respect to ECD, nutritionists may conduct nutrition assessments or support child growth monitoring; provide counselling to parents on maternal nutrition and infant and young child feeding (including exclusive breastfeeding, complementary feeding, and the consumption of micronutrients); provide technical oversight to therapeutic feeding programs for children with acute malnutrition as well as preschool feeding programs. Nutritionists may be employed by health services, and are increasingly incorporated into early education and multi-sectoral ECD programs. Depending on the country context, a nutritionist can often be an accredited or registered professional.	Feeding specialists, dieticians, growth monitoring specialists, lactation specialists/consultants
	Health educators & trainers	Many of the health workers listed above provide health education as part of their work. Health educators, as a specific category, are professionals who deliver individualized services and group sessions in higher education settings, as well as in and outside of health facilities. These individuals may also prepare educational and training materials.	
	Health services directors, managers, and supervisors	Health services directors, managers, and supervisors oversee the operations of health facilities or programs, and supervise early childhood personnel in these settings.	
EARLY CHILDHOOD INTERVENTION AND INCLUSIVE EARLY EDUCATION ³⁹	Early intervention specialists	Early intervention specialists may be professionals trained at the pre- or post-graduate level who work in integrated early childhood intervention services that function at the intersection of the health, education, and protection sectors to provide individualized and intensive services to parents and infants/toddlers with developmental delays or disabilities, often through home visits. Early intervention specialists, among others, conduct developmental screenings and refer children to early intervention services. With the participation of parents/caregivers, they conduct comprehensive assessments, individualized family service plans to identify eligible children, conduct regular visits, and prepare transition plans to inclusive preschool and primary education.	Child development specialists, professional home visitors
	Resource specialists for inclusive education for children with disabilities and delays	A wide variety of professional therapists, rehabilitation specialists and special educators may assist with inclusive education at the preschool and primary school level. In addition, non-professionals, working under the guidance and supervision of professionals, support children, parents and teachers in the school environment. However, increasingly teachers and caregivers in preschools and primary schools are being trained in essential elements of working effectively with children with developmental delays, disabilities or various disorders, such as autism spectrum disorder.	Special needs assistants, inclusion specialists
	Special education teachers	Special education teachers are education professionals who work at preschool and primary school levels where they teach children with developmental delays, disabilities, and behavioral disorders. This classification includes teachers who provide specialized therapeutic sessions as well as teach basic academic and life processes skills to the mentally impaired.	Special educators

³⁹ Early Childhood Intervention (ECI), while multi-sectoral in nature, is included here as its own sector to capture some of the roles that are unique to these services. However, roles within ECI are not included in the landscape analysis due to data gaps.

	Therapists (e.g. speech/language, physical, occupational)	Early childhood intervention programs can employ an array of therapists trained at the post- graduate level who, with early intervention specialists, provide a range of ECI services and also supervise trained ECI home visitors and others who work at the paraprofessional level.	
	ECI, IE and IECD program supervisors and directors/ managers	Early childhood intervention (ECI) program supervisors, directors and managers oversee, monitor and train the operations, professional and paraprofessional staff of integrated ECI programs and ECD centers. These centers may offer multi-sectoral services from preconception to transition to primary education.	
EDUCATION	Child care workers	Child care workers provide non-parental care to young children, which allows for parents (and mothers in particular) to work during the day. These services provide comprehensive care and early learning opportunities including stimulation and play activities, promotion of good hygiene practices, provision of nutritious meals. While child care workers often care for the youngest children (0-3), depending on local needs, they may care for children until they enter primary school. Child care workers may be employed in community- or center-based settings (often called child care centers, crèches, nurseries, or playgroups) or in groups in family homes. In many countries, child care workers have limited education or training in child development, though in European countries these workers may have a health background.	Daycare workers, childminders, caregivers, playgroup workers, paraprofessionals, nursery workers, crèche workers, child health workers
	Early childhood teachers	Early childhood teachers work directly with young children in early learning settings to foster their cognitive, physical, language, and socioemotional development, and prepare children and parents for a successful transition to formal primary schooling. These teachers usually work with children from 36 months to primary school entry, but may cater to children under 3 as well. Teachers may be employed by center-, community-, or faith-based programs, crèches, preschools, pre-primary programs or kindergarten/ preparatory year classrooms. In many contexts, these teachers are trained separately and often less than primary school teachers, though it is increasingly recognized that these teachers play similar roles in fostering the initial development and learning of young children.	Pre-primary teachers, preschool teachers, ECE teachers, ECEC teachers, ECD teachers, kindergarten teachers, early childhood educators, infant teachers, nursery teachers
	Primary school teachers	Primary school teachers are often educated at the post-secondary level. Within early childhood development, these teachers are responsible for children in the early years of primary school (often grades 1 through 3). While the starting age for primary school varies by country, these teachers normally work with children 5 to 8 years old.	Elementary school teachers, early grade teachers
	Social pedagogy professionals	Social pedagogy professionals are, in most cases, educated or trained at the higher education level to work with young and school-age children, youths, and – in some cases – adults. In ECD, social pedagogy professionals may work in child care, early education and care, or school settings. Social pedagogy professionals, mostly prevalent in Europe, adopt a holistic approach to education and care, primarily focusing on social pedagogy or social work outside of the school system.	Social pedagogues

	Teacher assistants	Teacher assistants are adults who work under the direct supervision of a teacher, and perform some duties that are instructional in nature. Teacher assistants can work independently in a teacher's absence, but for the vast majority of the time work directly with the teacher in the same space and with the same group of children. Some provide extra assistance to children with developmental delays or disabilities.	Teacher aides, pedagogues, auxiliary teachers/staff, classroom aides, instructional aides
	Teacher coaches	Teacher coaches provide specialized, intensive support to an individual or group of teachers in early education and care settings to develop specific skills and practices. The coaching process is collaborative and often takes place on-site, over a series of sessions.	Instructional coaches
	Teacher trainers	Teacher trainers are qualified professionals or individuals, usually trained at the post-secondary level, who provide pre-service and/or in-service training to teachers and educators. In many settings, teacher trainers are employed by institutions of higher education (such as universities or colleges) where students prepare to become early childhood or primary school teachers.	Teacher educators, teacher preparers, master teachers
	Education service directors/ managers	Individuals typically responsible for the day-to-day planning and directing of an ECD program or center, preschool, primary school, daycare or child care center, etc. These individuals may also supervise other workers, such as teachers. In some cases, local government workers (such as district education officials) or school boards may also be closely involved in the registration, oversight, or management of these services.	ECD program managers/directors, child care managers/directors, school directors, principals
SOCIAL AND CHILD PROTECTION	Social service workers	The social service workforce is an overarching term for the workforce comprised of a variety of workers – paid and unpaid, governmental and nongovernmental – who staff social service systems and contribute to the care, support, promotion of rights and empowerment of vulnerable populations.	Case workers, child welfare officers, social welfare officers, social protection coordinators, child protection specialists, counselors, para social workers, social worker, auxiliary social worker, social services worker, community child workers, community caregivers, community mediators
	Community child protection officers and workers	A subset of the social service workforce that focuses on promoting well-being and preventing and responding to a variety of risks, including violence, abuse, exploitation, neglect, family separation, and foster care.	Child welfare officers, social welfare officers, children's officers, child protection coordinators, child protection specialists

Mental health professionals/special ists	Professionals who have received formal post-graduate training in psychology or social work and may be employed within education (e.g. schools), health (e.g. hospitals), or social service systems. Within early childhood, these specialists work with young children and families who are experiencing or at risk for emotional or behavioral challenges.	Psychologists, psychiatrists, psychiatric nurses, clinical social workers, counselors
Residential care staff	Residential care staff members provide 24-hour, day-to-day support to children without parental care living in non-family-based group settings, on a short- or long-term basis. These staff may work alongside or support psychologists, doctors, social workers, or other professionals. Staff may be employed in a variety of institutions, such as residential child care centers or facilities, orphanages, or children's homes. Increasingly they are serving and supporting deinstitutionalized children and the families or transitional small group caregivers who have received them.	Carers, caregivers, child care staff
Social services educators & trainers	Social work educators and trainers are trained at the graduate level. They serve as trainers of trainers, supervisors and monitors in social and child protection services.	
Social service managers	Social service managers supervise practitioners and provide direction to the supervisee to enable them to apply theory, standardized knowledge, skills, competency, and applicable ethical content in the practice setting.	Program managers, social work managers/supervisors, child welfare managers/supervisors