Facilitators and barriers to early childhood development delivery in Mozambique

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Contents

Abbreviations

ECD	early childhood development
FGD	focus group discussion
HCD	human-centered design
KII	key informant interview
MOH	Ministry of Health
PHC	primary health care

Introduction

Since 2014, PATH has been supporting the Ministry of Health (MOH) in Mozambique in integrating **early child development (ECD) interventions into primary health care (PHC)**. These ECD interventions include:

1. **Monitoring child development** during routine health consultations.
2. **Counseling caregivers** on age-appropriate play and communication with children during routine maternal and child health consultations and in health facility waiting areas.
3. **Offering child-friendly health services** through improved interpersonal communication with caregivers and children, along with the provision of play materials in consultation rooms and health facility waiting areas.
4. Demonstrating and practicing age-appropriate play and communication activities with the help of low-cost, homemade play materials.

Between 2014 and 2019, PATH supported the provincial MOH in Maputo Province to scale up these integrated ECD services through PHC to all health facilities and government community health workers. Subsequently, PATH expanded its efforts to Nampula Province in the north, where it supported the provincial MOH and district health and social action services in the Monapo District from 2018 to 2023 to achieve similar comprehensive coverage.

We used a systems-strengthening approach aimed at “saturating” ECD content throughout the health sector at both national and subnational levels. Key activities included the following:

1. Facilitating improved **planning, budgeting, and coordination** among key health sector actors to promote government buy-in and ownership.
2. Introducing **child development indicators** in well-baby and sick-child registers to reinforce the importance of ECD interventions as part of routine service delivery and promoting the use of data for decision-making.
3. **Revising guidelines and manuals** on newborn care, child health services, nutrition rehabilitation, and HIV treatment to include ECD content, creating a supportive environment that reinforces the integration of ECD into PHC.
4. Developing and building capacity in the use of **ECD job aids** to provide integrated ECD services.
5. **Training and mentoring service providers** to deliver the promoted ECD interventions as part of their routine services.
6. Identifying and **building the capacity of local partners** to deliver complementary community-based ECD services, covering areas and populations outside routine PHC—e.g., children with disabilities and young mothers at higher risk of poor mental health.

7. Using **formative assessments** to ensure the relevance of integrated ECD services and job aids to the local context.

Operations research conducted in Maputo in 2018 and a project evaluation led by the Harvard T.H. Chan School of Public Health in Nampula in 2021[1] identified variability in the reach and quality of ECD services. This prompted PATH to consider refining the ECD service-delivery approach and programming materials to enhance service quality and improve caregiver adoption of key behaviors and practices. Furthermore, when exploring sustainable ways to support service providers in delivering quality ECD services, PATH initially focused on integrating ECD content into existing district-level supervision workstreams. However, district-level supervision was generally neither regular nor systematic enough to provide the support service providers needed to improve service delivery. Instead, we considered the possibility of health facility directors assuming supervisory and mentoring roles for ECD, similar to the roles they already played in HIV, tuberculosis, malaria, and immunization services.

In October 2022, PATH began an iterative human-centered design (HCD) process to better understand what was working and what was not, using these findings to identify specific touchpoints and workstreams to enhance the quality and frequency of integrated ECD services. The first phase of HCD focused on identifying and summarizing caregiver and service provider experiences with ECD service delivery, along with existing barriers and opportunities for promoting ECD services through PHC.

Methods

Aim and questions

The aim of the first phase of HCD was to identify the facilitators and barriers experienced by health facility service providers and directors in delivering ECD services as part of routine PHC in Mozambique.

The primary assessment questions were as follows:

1. What supports and motivates health facility providers to deliver high-quality integrated ECD services?
2. What barriers do health facility providers face when delivering integrated ECD services?
3. What factors would support or hinder health facility directors from supporting service providers in delivering high-quality integrated ECD services?

Participant selection

Purposive sampling was used to identify potential key informants for key informant interviews (KIIs) and focus group discussions (FGDs) based on the following inclusion criteria:

1. A health facility provider delivering child or maternal health services (FGD and KII) or a health facility director (KII) from one of the four priority health facilities in Monapo District, where PATH provided intensive technical assistance.
2. A health facility provider delivering child or maternal health services (FGD only) or a health facility director (KII) from one of the three highest-volume facilities in Ribáuè District, where PATH had not provided technical assistance.

To ensure more in-depth exploration of perspectives from experienced providers in Monapo District, five such providers in the district were invited both for key informant interviews and focus group discussions.

Data collection

After obtaining written informed consent, 30–45-minute KIIs and 60–90-minute FGDs were conducted in Portuguese by a skilled facilitator using a semi-structured guide (Appendix A: Semi-structured interview guide for health facility directors; Appendix B: Semi-structured interview guide for health facility providers; Appendix C: Focus group discussion guide for health facility providers). KIIs and FGDs were conducted in a private area within the health facility in the afternoon after most health services had concluded for the day.

Informants were asked about their workday, what motivates them, and what challenges they face in providing quality maternal and child health services, including integrated ECD services. They were also asked about their understanding of and involvement in quality improvement

activities. All interviews and FGDs were audio-recorded with participant consent, and a notetaker took detailed notes. Audio recordings were transcribed verbatim into Microsoft Word and then translated into English using translation software.

Data analysis

A preliminary codebook, guided by the overall aim of the assessment and its questions, was applied to the qualitative interview and FGD data using the ATLAS.ti (v8) software. Coding was an iterative process, with initial coding informing the development of a refined codebook, which was further adjusted until a final codebook was developed. Once coding was finalized, codes were grouped into themes and supported by exemplary quotations.

Ethical considerations

The overall HCD process received bioethics approval from the Mozambique Ministry of Health (#41CNBS2022). KIIs and FGDs were conducted after obtaining written informed consent from participants. Participants were offered a light lunch as compensation for their time.

Participant characteristics

A total of 37 participants from the Monapo and Ribáuè districts—7 health facility directors and 30 service providers—participated in 16 KIIs and 6 FGDs (Table 1).

Providers included 3 general nurses who conduct sick-child consultations; 14 maternal and child health nurses who provide antenatal and postnatal care, as well as child-at-risk consultations; and 8 preventive medicine technicians and 3 nutrition technicians who conduct well-baby services.

Table 1. Participants by role and activity.

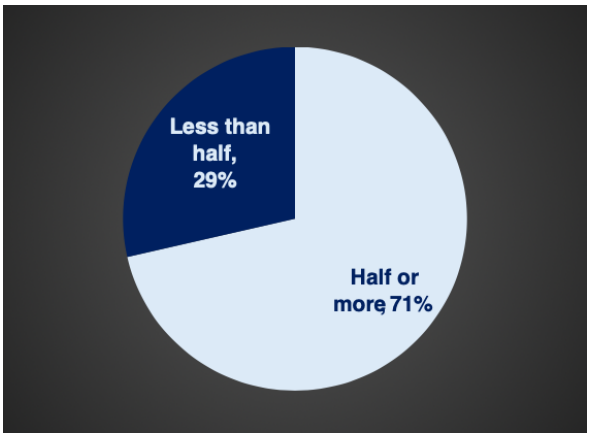
Role	Interview	Focus group discussion	Total
Directors	7	0	7
Providers	9	26	30*

* Five providers participated in both interviews and focus group discussions

Results: Health facility directors' training and use of time

Health facility directors reported starting work at 7:00 a.m. (range: 5:00–7:20 a.m.) and ending at 3:30 p.m. (range: 3:00–6:00 p.m.). They reported spending between 25% and 75% (median: 50%) of their day on administrative and managerial activities, such as supervision and inventory assessments, and between 30% and 75% (median: 50%) of their time providing direct clinical care. The majority of interviewed directors (71%, or 5 out of 7) reported spending half or more of their day on direct clinical care (Figure 1).

Figure 1. Portion of time spent by facility directors providing clinical services.



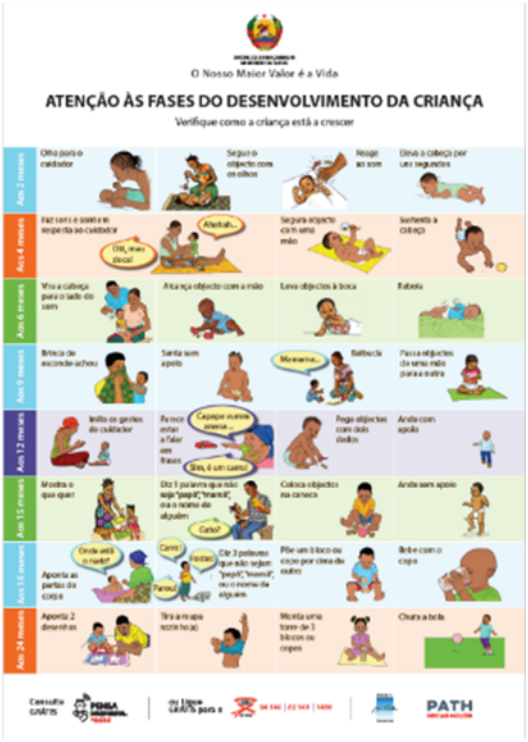
Only one of the seven directors interviewed reported receiving training in comprehensive quality improvement that extended beyond specific service-delivery areas and focused on enhancing overall staff performance through supportive supervision, mentoring, management, and interpersonal communication. Five of the seven directors interviewed reported receiving partner-supported quality improvement training in specific health areas, such as malaria and newborn and child health, supported by those partners. The seven directors were also asked if they had received terms of reference outlining their managerial and supervisory responsibilities upon appointment to their roles. None reported receiving any terms of reference or management-related training at the time of their appointment.

Results: Facilitators and barriers to quality ECD service delivery

Most providers recommended delivering ECD interventions during all child health services (i.e., well-child, sick-child, and at-risk child services), as well as during maternal health services such as antenatal care and maternity. A few providers noted that well-child consultations were the most appropriate time for ECD counseling compared to sick-child consultations and postpartum care, when caregivers tend to be more worried and may struggle to focus on information beyond their immediate concerns about their child's health and well-being.

Facilitator: Presence of well-designed ECD job aids

Figure 2. Poster used by service providers to monitor children's developmental milestones.



"It is the posters. I can forget and may not memorize the milestones in my head, but seeing the posters helps guide me in counseling. I don't have problems because I can use the posters." (Provider, KII)

"I usually show these posters. I show the caregiver what [developmental milestone] corresponds to their child's age. These posters help me a lot." (Provider, KII)

Over the years, PATH has helped develop job aids, such as posters and counseling cards, to support ECD service delivery. These job aids were co-created with service providers, health facility directors, and government managers and were further refined through multiple rounds of formative assessments to ensure their relevance to communities and caregivers. During the HCD assessment, providers repeatedly expressed how useful the posters (Figure 2) were in helping them provide high-quality, integrated ECD services. With the posters, providers did not have to memorize ECD counseling messages and age-appropriate developmental milestones. The posters served as a prompt, reminding providers to include ECD content in their services. They also provided caregivers with a visual representation of the messages, which enhanced caregivers' understanding and adoption of the guidance.

Facilitator: Service provider appreciation of the importance of ECD

A commonly expressed motivator for service providers was "being in service" and being able to "help people." Providers repeatedly expressed how important and gratifying it was to care for others.

"Providing health services is what motivates me. I dream of a better Mozambique in terms of health." (Provider, KII)

"It was my dream to take care of the mother and child, save lives, and see happy families." (Provider, FGD)

"I felt very gratified and happy, especially the first time I had contact with ECD [messaging]. During the first talk I gave, I realized that the mothers gladly complied and promised to comply with the advice. I felt very happy. It is rewarding when the child achieves improvement. It is very gratifying." (Provider, KII)

Providers frequently expressed how much they enjoyed offering ECD counseling. They felt gratified when caregivers applied counseling messages, when they saw caregivers taking better care of their children, and when they saw improvements in children's health and well-being. One provider described integrating ECD counseling content into the care of her own child and observing the positive effects on her child's development.

"[ECD counseling] is very important because I am a witness to it myself. When I was being trained, I was pregnant, and I learned how to talk to the baby in my belly. So I've been talking, imitating what I learned, and evaluating my son. I see a difference with other children—he's very open-minded. I really believe that it is very important to stimulate the child, to let him play, and to help him learn to communicate." (Provider, KII)

"I feel satisfied when I see a child who is in a good state. I feel happy because I feel proud that I helped with the child's weight [gain]. I explained it to the mother. I advised the mother, and now the child is developing as they should. I am the one who did it for the mother, and I feel happy to do it for the mother. The mother listened to my advice." (Provider, KII)

Barrier: Caregiver resistance to uptake of ECD counseling messages

Service providers feel motivated when they see caregivers integrating ECD practices from counseling and seeing improvements in children's development and well-being. However, they feel demotivated when caregivers miss appointments or are resistant to changing their practices. One provider shared that when caregivers integrate the recommended ECD practices, they feel "very good" and "confident." On the other hand, when working with caregivers who seem uninterested, they feel "sad," "embarrassed," and "insecure." Service providers described situations in which pregnant women and caregivers missed appointments, preventing providers from delivering quality care—for example, being unable to assess a child's growth trajectory when the growth chart is missing multiple time points. One provider noted that competing demands and the struggle to maintain livelihoods may lead some caregivers to

prioritize income-generating activities over health facility visits and implementing ECD care practices learned from providers.

"I feel sad when I explain to a mother they should do this [nutritional advice], but the mother doesn't want to do it. But why doesn't she want to do it? They take [the harvest], and they sell it. There were a lot of peanuts this year, but if I ask any mother, they'll tell you they don't have any peanuts, because they have already sold them. When bean [season] comes, same thing. That is why malnutrition increases—mothers don't put things away to feed their children." (Provider, KII)

Barrier: Low levels of positive communication between health service providers and health facility directors

Providers repeatedly emphasized the importance of positive reinforcement and recognition in motivating them to learn and grow professionally. However, they noted that health facility directors more commonly criticized their work, which was demotivating and affected its quality.

"We rarely receive compliments. We know that compliments are important. If someone is waiting for you to fail to criticize you, but whenever you do something well, they don't praise it, that demotivates you. Because you keep asking yourself, 'With everything that I do, is there nothing good that I do? Why do I always get criticisms and never get compliments?'" (Provider, FGD)

"[They say,] 'You didn't do this, you didn't register any births.' How am I going to be [confident]? I'm not going to be okay; I'm going to be very nervous. I don't work well when the person criticizes me." (Provider, KII)

Service providers clearly expressed their desire to receive feedback to correct mistakes and learn. They emphasized the importance of shifting from a culture of "criticism," "scolding," and "yelling" to one that encourages "open communication," "compliments," "praise," "consideration," and "recognition." Service providers highlighted one key behavioral recommendation: building health facility directors' skills in recognizing effort, celebrating successes, and providing constructive and supportive feedback to foster a learning environment where errors are seen as opportunities for learning.

On the other hand, health facility directors felt that their managerial and supervisory duties put them in conflict with service providers and that changing provider behavior was their biggest challenge. As a result, several directors preferred prioritizing clinical care over management, supervision, and mentoring, as shown in the results presented in Figure 1.

"I enjoy working in the clinical area. I don't like coordination activities, where I have to problem-solve conflicts." (Director, Interview)

"I like to spend time in visits more because being there, I can understand the evolution of the patients. [I least like to] organize the schedules because, at some point, there is a fight with colleagues." (Director, Interview)

One service provider acknowledged that a lack of openness to receiving feedback from colleagues and directors stemmed from a preconceived perception that such feedback would be critical and negative—and, in essence, be a distraction and inconvenience. In the words of a service provider, if I have "already prepared myself that the colleague comes here to bother me, I won't understand anything." As such, provider openness to feedback may be more likely if there is an overall culture of learning and providing and receiving positive feedback rather than one where errors are reprimanded.

The importance of recognition and positive reinforcement was also emphasized by one director, who expressed a desire to provide material recognition for strong performance. However, he acknowledged that this was not feasible due to resource constraints and instead emphasized the importance of regularly vocalizing positive recognition.

"We would like, as a health facility, to recognize some providers whom we think are in a good position of quality improvement, who are producing and improving the service. But the recognition in the health facility stops by saying: congratulations, colleague; you did that; you are to be congratulated. At some point, this is not so inviting for a professional. It is beautiful, a "thank you" from a leader. But there are those that don't appreciate it without some material recognition. As a health facility, we don't have that option. But in terms of moral and psychological support, we have it. We have said you are to be congratulated for having done this. We witnessed your activities yesterday. You are to be congratulated." (Director, Interview)

Barrier: Limitations in human and material resources

Both health facility directors and service providers emphasized the challenges of delivering optimal PHC services—including integrated ECD services—amid limited human and material resources. The lack of material resources was evident in stockouts of essential medical supplies and commodities, inconsistent sources of light for conducting surgeries, and a lack of fuel and means of transportation for outreach activities. Furthermore, there are challenges with insufficient numbers of posters and other job aids, as well as the fact that posters are only available in Portuguese rather than the local Macua language.

Service providers also noted a shortage of play materials in health facility waiting areas, limiting their ability to conduct play sessions with young children and caregivers while they wait to receive services. This shortage occurs because locally-made play materials often get damaged or taken home by caregivers and children. Additionally, key informants noted overwork and lack of staffing as barriers to providing quality services; a problem further exacerbated when providers cannot speak the local languages (i.e., Macua and Makonde). Providers stressed the importance of being able to speak the local language, especially for delivering effective counseling.

Some service providers also emphasized the importance of offering remuneration or subsidies to health facility volunteers who facilitate play sessions in health facility waiting areas in order to "motivate" them. One provider specified that these volunteers would appreciate even a small token, such as soap.

“I feel I am not exploring the fullest what I learned in the training because there are no resources.” (Provider, Interview #6)

“Lack of staff affects the quality of services because a single person must do everything alone. This is discouraging.” (Provider, FGD)

“We can’t be there talking Portuguese. The mother will not understand.” (Provider, Interview)

“There is a language barrier. I want to say, ‘this is a doll’ in Macua, but I can’t. I say, ‘doll, doll, doll,’ but the caregiver doesn’t understand.” (Provider)

“The Macua I learned is not good. Sometimes the patient doesn’t understand. When I have difficulty, I have the [health facility volunteer] interpret.” (Provider, Interview)

In addition to the resource-related barriers to providing quality care, service providers pointed to a lack of resources available to caregivers to effectively implement the ECD practices promoted during counseling. Service providers recommended exploring ways to link caregivers to food aid programs—an important recommendation, given the clear evidence of the direct impact of nutrition investments on child development.

“There are situations in which the mother says there is no way to vary the food because she has nothing else; she only eats cassava porridge with moringa leaves because she does not have any support. We should have support from Social Action for food aid, offering a basic food basket to some mothers, especially those at high nutritional risk. Sometimes we give rich counseling, and the mother listens, but there is no way to implement it due to a lack of resources.” (Provider, Interview)

Recommendations

Based on the findings from this assessment, PATH developed the following recommendations:

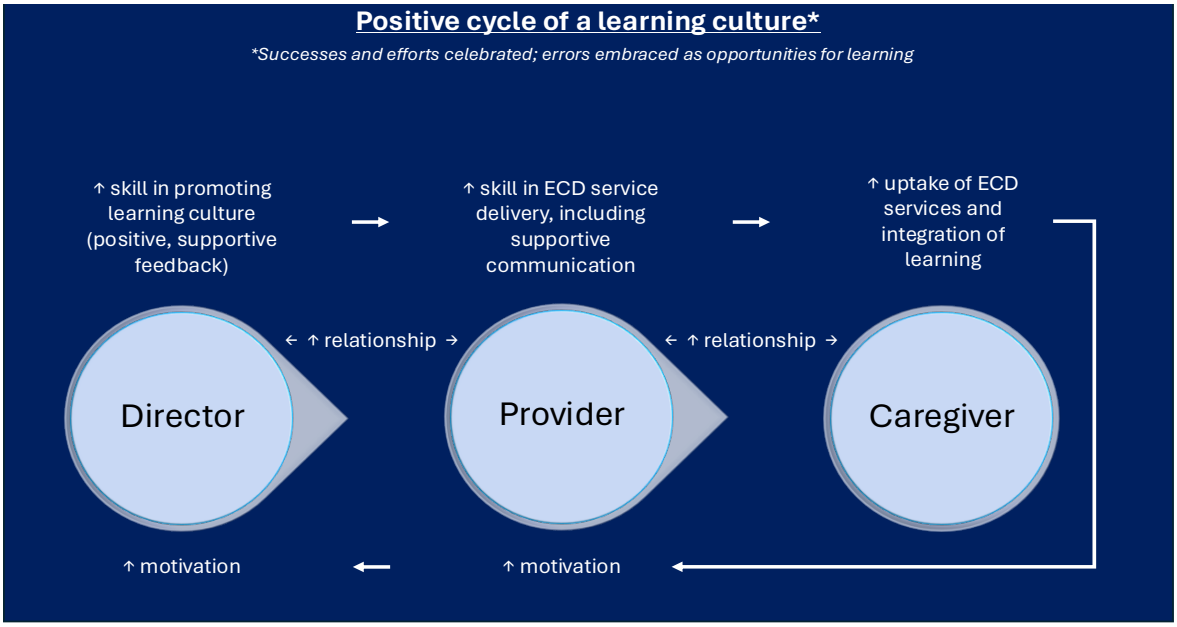
1. Identify touchpoints where service providers are most likely to offer integrated ECD services given their workload, explore the potential to task-shift certain content to other service providers, and develop targeted training materials and job aids for each touchpoint.
2. Offer feasible incentives to health facility volunteers involved in delivering services, such as facilitating play sessions in waiting areas.
3. Distribute additional ECD posters to health facilities and provide posters and other ECD materials in local languages where feasible.
4. Pursue innovative partnerships to ensure a sufficient supply of play materials made from locally available resources.
5. Create a learning environment where feedback is encouraged and errors are not criticized but used as opportunities for learning by building the capacity of health facility directors to celebrate successes, recognize efforts, and provide positive and supportive feedback.
6. Explore practical solutions that encourage health facility directors to allocate time in their daily routines to carry out their administrative and managerial responsibilities.
7. Connect families to food and agricultural support programs.

Assessment findings informed subsequent phases of HCD, where solutions were co-created with service providers, health facility directors, government managers, and caregivers. These solutions were then tested for acceptability, feasibility, and their impact on the fidelity of delivery of ECD interventions and the uptake of key messages by caregivers. The tested solutions included identifying specific touchpoints for prioritizing ECD service delivery (Recommendation 1), incentivizing health facility volunteers to conduct play sessions in health facility waiting areas (Recommendation 2) and engaging local schools and health facility interns to produce play materials for these sessions (Recommendation 4). To support the establishment of a positive learning environment at the health facility (Recommendation 6), solutions that were co-created included developing a daily agenda to help health facility directors structure their time for service provider mentoring and a prompt to commence staff meetings and supervision visits by highlighting successes and providing positive feedback.

Behavioral theory of change: Positive cycle of a culture of learning

Based on the behavioral facilitators, barriers, and recommendations identified in this assessment, we developed a theory of change outlining the positive effects of a culture of learning (Figure 3).

Figure 3. Theory of change on the effects of a culture of learning on ECD counseling and caregiver uptake.



The theory of change hypothesizes that if health facility directors have the skills to promote a culture of learning—where successes are celebrated, efforts are recognized, and errors are embraced as opportunities for learning—this would be reflected in service providers receiving positive reinforcement and supportive feedback. In turn, this would help strengthen service provider skills in ECD service delivery. The culture of learning would also be reflected in service providers using positive reinforcement and supportive communication with caregivers when delivering ECD services, which would, in turn, facilitate caregiver uptake of key ECD messages and encourage them to practice learned behaviors at home. Consequently, improvements in caregiver knowledge of ECD and practice of key ECD behaviors would further motivate health providers to continue providing quality ECD services and using supportive communication with caregivers. The improvement in health provider skills and motivation is also theorized to increase the motivation of health facility directors to continue promoting a culture of learning, as well as improve relationships between health facility directors and service providers.

References

1. Jeong J, Bliznashka L, Ahun MN, et al. A pilot to promote early child development within health systems in Mozambique: a qualitative evaluation. *Annals of the New York Academy of Sciences*. 2022 Mar;1509(1):161–183. https://doi.org/10.1111/nyas.14718