

The problem: Low intensity and quality of ECD services in routine PHC

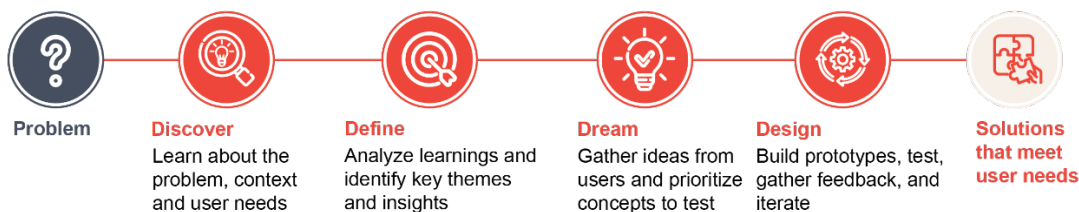
PATH-supported models to promote early childhood development through routine maternal and child health services have collectively reached a population of several million in sub-Saharan Africa. Implementation assessments have demonstrated acceptability and feasibility of developmental monitoring and counseling within routine services, when supported by regular capacity-building and mentoring.

In 2018 to 2020, impact evaluations of integrated service provision were conducted in Mozambique and Kenya. The Mozambique evaluation, carried out in 2020,⁵ showed that only about half of the caregivers recalled being counseled on early learning as part of routine facility-based services. Counseling content was largely focused on toy making and talking to the baby in utero, with little attention to age-appropriate play and communication activities. Only 10 percent of caregivers had a community health worker (CHW) visit recently; none recalled ECD messages shared by these workers. A cluster randomized controlled trial in Kenya in 2018 to 2020⁶ showed that most caregivers had received only around five routine child health visits, with most of these driven by first-year immunization schedules. In about 80 percent of these visits, ECD counseling was provided. Only 20 percent reported learning about child development from a CHW. Most caregivers were counseled on toy making and play. The intervention had significant impact on caregiver practices and child development scores when children were 9 to 10 months old; however, no impact on caregiver knowledge, practices, or child development was found when children were 24 to 27 months old and had little contact with health services.

These findings on the low number of health system contacts, especially at the community level; counseling that does not reach all the families; and limited counseling content have spurred PATH to pause and reflect on its approach to integrating ECD in health services. To identify solutions that maximize frequency and quality of ECD counseling in health services, PATH employed its Living Labs model of human-centered design (HCD) with service providers, community members, and government stakeholders in Siaya County in Kenya and Monapo District in Mozambique's Nampula Province.

The solution: Human-centered design to optimize ECD services in PHC

PATH's Living Labs model can be summarized by the "4D" approach: (1) discover the problem and the needs of users, (2) define the key themes and insights shared by users, (3) dream with users about possible solutions and prioritize concepts to test, and (4) design with users, build a prototype, and keep iterating until the final solution is accepted. Since 2019, the Living Labs model has been applied in nearly 50 projects across 15 countries to improve services such as vaccination and client record-keeping, promote better self-care in diabetic patients, and prevent postpartum hemorrhage.



A "4D" approach to human-centered design

To understand the current problem with delivery and experience of ECD counseling, during the **Discover phase**, PATH conducted structured interviews and focus group discussions with health providers and their managers; observed service delivery in antenatal care, maternity wards, waiting rooms, and child consultations; and interviewed caregivers and observed their playful interactions with children.

Discovering insights about caregivers and health services

The **Discover phase** highlighted a range of barriers to the delivery and uptake of integrated services, while also showcasing opportunities for improving counseling on child development.



Responsive caregiving and early learning practices

- Fewer than half of mothers reported using daily routines as opportunities for play with their children.
- Fathers were largely missing from play interactions with newborns and young children.
- There was little increase in complexity of play with age. When prompted, most caregivers of children under two called their child by name and bounced them to make them laugh.



Health provider motivations and perceptions

- Health providers were motivated to provide counseling when they (1) saw improvements in a child after counseling, (2) had someone to share the tasks with, and (3) were recognized for their efforts.
- Providers perceived effective counseling to refer primarily to good interpersonal communication; few saw counseling as a tool for behavior change that requires demonstration, practice, and feedback.



Use of and exposure to existing job aids and tools

- While two-thirds of caregivers mentioned seeing at least one ECD poster at a health facility, nearly 70 percent of caregivers reported never having received any explanation about the content of the poster.
- During well-child consultations, providers often used the same poster—intended for monitoring of developmental milestones—for both monitoring and counseling.
- In Kenya, all caregivers received the Ministry of Health's (MOH) *Mother & Child Health Handbook*. It contains developmental monitoring and counseling content, among other topics. However, caregivers saw the handbook as a tool for providers rather than a resource for themselves, and they were not familiar with its content.
- Health service providers used the handbook to register and check on appointments and to register growth monitoring and immunization data. The counseling content of the handbook—including on ECD—was not used.



Provider orients a family on the content of the Mother and Child Health Handbook



Provision of ECD services at antenatal care

- Almost all caregivers mentioned hearing about the importance of talking to the baby during pregnancy. The antenatal care (ANC) provider was mentioned as the primary source of this information, thereby underscoring the importance of ANC as a first touchpoint for ECD counseling.

Provision of ECD services in maternity wards

- Mothers spent 24 hours or more in the maternity ward after delivery.
- Most maternity wards had no posters or other educational materials on the walls.
- There were at least three moments when counseling was provided—immediately after birth, one hour after delivery, and just before the discharge. Counseling before discharge was the most regular.
- All the mothers had a companion (e.g., their own mother or mother-in-law). Companions were seen by the nurses as an invaluable source of support, especially for first-time mothers.
- Nurses were found to provide excellent demonstration, practice, and feedback around breastfeeding. Breastfeeding counseling was identified as a service on which ECD counseling could be layered.

Provision of ECD services in health facility waiting areas

- Caregivers spent up to three hours sitting in health facility waiting areas, waiting to receive services. However, they rarely played or talked with their children, even when playthings were available.
- During play sessions in the waiting areas, providers explained the importance of play and taught how to make local playthings. There was little emphasis on modeling and practicing age-appropriate caregiver-child play interactions.

Provision of ECD services as part of routine child health services

- Providers delivering routine well-child, at-risk child, and sick child services were rarely observed to provide ECD counseling.
- In several instances, growth monitoring was the only component of well-child services, provided in the waiting area of the health facility. In this case, only the children identified as sick or growth faltering were given individual counseling.
- In the few instances where facility providers were observed to promote ECD within well-child services, they started the consultation by inviting the caregiver and the child to play for a brief moment, while they checked on developmental milestones and on play practices, before proceeding with other activities.



Provider conducting a physical exam during well-baby clinic

Provision of ECD services as part of community-based PHC service delivery (Kenya only)

- Caregivers reported trusting community health promoters (CHPs) more than facility-based providers. This was reflected in a greater openness in discussing problems and in reports of better detection of health issues during home visits.
- At the same time, CHPs faced challenges in effectively sharing their knowledge and in counseling caregivers—for example, they struggled to identify relevant counseling content for a specific age.
- Home visits provided more time for counseling compared to facility visits. However, there were systemic issues around frequency and consistency of home visits.

Dreaming up solutions to optimize ECD services in PHC

Through co-creation, health providers and managers developed and prioritized the following solutions to improve integrated ECD service delivery.

Mother's companion || Maternity wards

This solution promotes ECD counseling in three key ways in the maternity ward: it engages the mother's companion to make counseling more effective, teaches caregiver-child communication and baby massage with support of wall visuals, and promotes the layering of breastfeeding counseling with ECD content.



A nurse demonstrates baby massage steps to the mother and her companions in the maternity ward

Learn while you wait || Waiting rooms

Playbox sessions in health facility waiting areas were refined to include a more diverse play kit; more intentional demonstration and practice of age-appropriate play and communication activities—with support of a visual job aid; and regular follow-up with caregivers on their play practices after the formal part of the play session was over.



A child playing with locally made cars in the health facility waiting room

Baby's playmat || Child consultations

Providers have a play area or items in their consultation room; they start the consultation by greeting and playing a bit with the child, check on the caregivers' learning during the playbox session and counsel in case of need, and monitor developmental milestones. The same poster is used for developmental monitoring and counseling.



Mother and her daughter playing on the straw mat during well baby clinic

SOP for ECD || Child consultations and household visits

In Kenya, a standard operating procedure (SOP) for ECD was designed to guide facility and community health providers on how to use the *Mother & Child Handbook* for developmental monitoring and for counseling on ECD and nutrition at specific ages and touchpoints. Practice was emphasized as an essential step of counseling.

EARLY CHILDHOOD DEVELOPMENT STANDARDS FOR COMMUNITY HEALTH PROMOTERS AND HEALTHCARE WORKERS		
ASK & OBSERVE	TELL	PRACTICE
<p>CHILD PRESENTATION</p> <p>Check the mother for signs of depression.</p> <p>In the last 2 weeks, have you felt... 1. That you have no interest in doing things? 2. Things that used to interest or amuse you?</p> <p>MDHS page 17 & 18</p> <p>Check the mother for: 1. Congenital abnormalities 2. Exaggerated</p>	<p>Tell the mother you have seen her in months. She will respond and you will be able to help her.</p> <p>MDHS page 18 (Table 1.1)</p> <p>"You have seen me in 6 months. How are you? How are you with baby growth and health?"</p> <p>Messages will make the baby grow longer, stay healthy and reduce chances to be sick.</p>	<p>MDHS page 18, column 1</p> <p>1. Practice with mother and father how to hold the baby correctly.</p> <p>2. Put the baby on the baby mat.</p>
<p>BEHIND THE MOTHER'S BACK</p> <p>Check the mother for signs of depression.</p> <p>In the last 2 weeks, have you felt... 1. That you have no interest in doing things? 2. Things that used to interest or amuse you?</p>	<p>Tell the mother you have seen her in months. She will respond and you will be able to help her.</p> <p>"You have seen me in 6 months. How are you? How are you with baby growth and health?"</p> <p>Messages will make the baby grow longer, stay healthy and reduce chances to be sick.</p>	<p>MDHS page 18, column 1</p> <p>1. Help the mother with position & attachment to the breast. Add to talk to the baby when breastfeeding.</p> <p>2. Put the baby on the baby mat.</p>
<p>BEHIND THE MOTHER'S BACK</p> <p>Check the mother for signs of depression.</p> <p>In the last 2 weeks, have you felt... 1. That you have no interest in doing things? 2. Things that used to interest or amuse you?</p>	<p>Tell the mother you have seen her in months. She will respond and you will be able to help her.</p> <p>"You have seen me in 6 months. How are you? How are you with baby growth and health?"</p> <p>Messages will make the baby grow longer, stay healthy and reduce chances to be sick.</p>	<p>MDHS page 18, column 1</p> <p>1. Help the mother with position & attachment to the breast. Add to talk to the baby when breastfeeding.</p> <p>2. Put the baby on the baby mat.</p>

SOP for ECD (Kenya)

Additionally, antenatal care was reinforced as an important touchpoint for ECD counseling. In sum, the developed solutions focused on the key touchpoints or existing tools that presented the largest opportunities to counsel on ECD in a feasible, acceptable, and likely to be sustained manner; outlined counseling strategies and content specific to each touchpoint; and reinforced demonstration and practice. This contrasted with the previous intervention model that assumed that ECD counseling would be provided at every health touchpoint and that providers were able to identify relevant counseling content and strategies.

Refining the solutions with end users

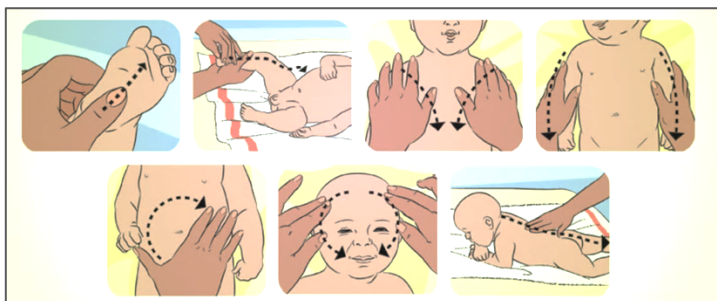
Human-centered design provided an opportunity to further refine the solutions and the associated job aids, especially those that were not being used consistently or correctly in daily practice. Following the initial design work, end users were invited to engage with the solutions by simulating them in a classroom setting to identify what is likely to work and what may need to be adjusted. Some of the changes that emerged from this exercise include the following:

- In both countries, maternity wards were culturally perceived to be “female spaces,” where male partners were not present. Therefore, it was agreed that male participation in caregiving should be promoted starting from the first ANC visit, when men often accompany their spouses to the health facility, and reinforced again in the maternity ward.
- In Mozambique, users agreed that unpaid volunteers already working in health facilities should be the ones conducting play sessions in the waiting areas, as opposed to relying on project-funded, paid activists. In Kenya, this is already the case, as play sessions are typically conducted by community health volunteers.
- In Mozambique, it was agreed that in child consultations where the use of a floor straw mat with some playthings is not feasible, a small box with playthings should be kept on the health provider’s table.
- In Kenya, users requested nutritional content to be incorporated in the SOP in addition to ECD content and recommended that developmental monitoring and counseling in the first year be aligned with the immunization schedule. Users also felt that community health promoters would require more coaching on the use of the SOP, and that this should be reflected in the training curriculum.

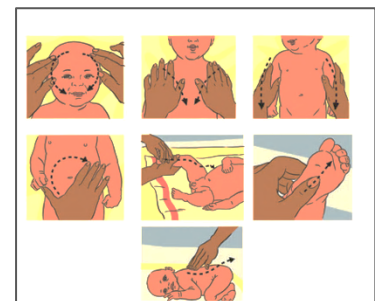


Fathers are practicing holding and talking to their babies in the maternity ward

Additional changes emerged during the testing of the solutions in real-life health facility and community service delivery. For example, in Mozambique nurses reported difficulties using the baby massage job aid in maternity wards. According to them, the massage steps were not organized in a way that enabled them to quickly remember their order and recommended that they be rearranged according to the sequence of the steps in a newborn physical exam, when a newborn is examined from head to toe. Subsequently, the job aid was redesigned to incorporate this feedback, which in turn led to improvement in counseling done by the nurses.



Original depiction of massage steps



New depiction of massage steps

Next steps: Taking the optimized ECD solutions to scale through PHC

Users assessed all the developed solutions to be highly acceptable to them, while the feasibility and sustainability of the interventions in maternity ward and child consultations were perceived to be dependent on the presence of a sufficient number of providers and on improved workflow and physical space available for service delivery.

In Mozambique, all health facilities in Monapo District were trained on the new ECD solutions once testing was completed and all training materials and job aids were finalized. Furthermore, PATH is working with the MOH to finalize an ECD training package for national-level rollout based on the tested solutions—including the development of step-by-step training videos for remote and in-person trainings. A national training of trainers is planned, following formal MOH approval of the training package.

In Kenya, the tested solutions were disseminated in a national workshop featuring MOH and nongovernmental partners. This has been followed by formal handover to subnational governmental and nongovernmental partners in western Kenya. Dr. Janette Karimi, Head of the Division of Newborn and Child Health at the national MOH, has particularly appreciated the use of the *Mother & Child Health Handbook* for developmental monitoring and counseling and encouraged PATH to continue sharing results and lessons learned in national meetings and working groups, “so that the *Nurturing Care strategy is actually addressing issues on the ground and not just being theoretical or based on global recommendations without considering the local context.*”

Learn more

To learn more about each of the tested ECD solutions and about PATH’s work in general, contact us at integratingecd@path.org

To learn more about Living Labs, visit our website at www.path.org/livinglabs or contact us at LivingLabs@path.org

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