Promoting child development in routine child health visits: A refined solution from human-centered design

Background

The new World Health Organization (WHO) guidance on well-child visits recommends 12 contacts in the first two years after birth.[1] Such visits should include assessment of health and nutrition status, counseling on health promotion and disease prevention, and exploring ways to strengthen family and societal support. Building on the Nurturing Care Practice Guide, the guidance also recommends counseling on responsive caregiving and early learning (i.e., play and communication) for promoting nurturing care for early childhood development (ECD) in every visit.[2]

A nurse conducting a physical exam at a well-child visit, Kenya. Photo: PATH.

Additionally, there are global tools that provide guidance on counseling of caregivers in responsive care and early learning as part of routine health services. These include the UNICEF/WHO *Care for Child Development* package, which encourages service providers to observe, ask, and counsel caregivers on age-appropriate play and communication activities.[3] More recently, the United States Agency for International Development's Advancing Nutrition project has developed a flowchart for nutritional and developmental monitoring and counseling at well-child visits, accompanied by step-by-step training videos.[4]

Since 2014, PATH has designed and tested multiple approaches adapted extensively from the content of the *Care for Child Development* package to promote integration of developmental monitoring and counseling into primary health care in Kenya and Mozambique, including well-child visits. Over the years, multiple operational assessments revealed the following insights:

- In Kenya, the six well-child visits in the first year after birth are aligned with the essential immunization schedule. Caregivers tend to consistently receive these well-child services. However, the frequency of well-child visits drops sharply after this period.[5]
- In Mozambique, a recent review of health registers revealed that the likelihood of a caregiver bringing a child to the health facility was 2–4 times higher when the child was sick, compared to bringing the child for a well-child visit.

[1] Improving the health and wellbeing of children and adolescents: guidance on scheduled child and adolescent well-care visits. Geneva: World Health Organization and the United Nations Children's Fund (UNICEF), 2023. Licence: CC BY-NC-SA 3.0 IGO.
[2] https://nurturing-care.org/practiceguide/
[3] https://www.unicef.org/documents/care-child-development
[4] https://www.advancingnutrition.org/resources/responsive-care-early-learning-addendum/ghana
[5] Jeong J, Bliznashka L, Ahun MN, Karuskina-Drivdale S, Picolo M, Lalwani T, Pinto J, Frey M, Velthauz D, Donco R, Yousafzai AK. A pilot to promote early child development within health systems in Mozambique: a qualitative evaluation. Ann N Y Acad Sci. 2022 Mar;1509(1):161-183. doi: 10.1111/nyas.14718. Epub 2021 Dec 2. PMID: 34859451; PMCID: PMC8978755.

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- A well-child visit normally lasts 2–10 minutes. Adding high quality ECD counseling based on the original *Care for Child Development* model was found to add as much as 15 minutes to each consultation. This made it impossible to consistently integrate ECD content into well-child services.
- Upon arriving at the health facility, all children—healthy and sick—are briskly moved through a series of services, such as weighing, height-taking, micronutrient supplementation, and immunizations. There is very little interaction between service providers, children, and caregivers during this process.
- When caregivers are eventually called for a one-on-one consultation with a nurse or similar service provider, the time is most frequently used to copy information and data from the child health card to the permanent register, as well as to check on those children showing growth faltering. Additional services (e.g., nutrition counseling, HIV testing, and family planning) are not frequently provided.
- In health facilities in Kenya, where PATH has worked with the government to build capacity of service providers to provide developmental monitoring and counseling, 80 percent of caregivers mentioned receiving ECD counseling.[6] In similar health facilities in Mozambique, only around 50 percent of caregivers reported receiving similar counseling.[5] In Mozambique, the need to make playthings for children was cited as the most frequently recalled counseling message.
- Notwithstanding the availability of multiple posters for developmental monitoring and counseling and service providers expressing their appreciation for them, they were not routinely used in counseling. In the most common scenario, a developmental milestones poster was used for both monitoring and counseling, suggesting service provider preference for streamlined job aids.

Given these findings, it may not be feasible to expect detailed step-by-step ECD counseling in low-resource settings with high client volumes, as outlined in the WHO guidance on well-child visits and in the original *Care for Child Development* package. At the same time, it was found that most caregivers spend several hours sitting in health facility waiting areas before being seen by a service provider. However, they were rarely observed playing or talking with their children in waiting areas. Provision of play materials and an introductory group talk on the importance of play did not seem to automatically result in an increase in playful caregiver-child interactions.

In 2022, PATH used a process of human-centered design (HCD) to further assess facilitators and barriers to providing developmental monitoring and counseling as part of well-child visits and validate the findings from previous assessments. This process included observations of service delivery and health facility waiting areas, focus groups and interviews with providers and their supervisors, and exit interviews with caregivers. Separately, PATH conducted additional rounds of HCD to refine play sessions in health facility waiting areas to emphasize counseling and demonstration (covered in a separate brief).

The solution: Sharing developmental counseling between well-child consultations and health facility waiting areas

Following the assessment of barriers and facilitators, we brought together caregivers, service providers, and supervisors in both Kenya and Mozambique to co-create a solution which partially shifts counseling to health facility waiting areas and streamlines the job aids used for counseling during well-child visits. The waiting area was re-imagined as a touchpoint where service providers can demonstrate play and communication practices and where caregivers can practice them with the support of a service provider while waiting to receive services. The well-child consultation was re-imagined as an opportunity to take stock of what the caregiver learned in the waiting area and to reinforce the new behaviors and practices learned there. The solution was structured in the form of the following steps:

STEP 1: Welcome the child in a friendly manner and invite the child and the caregiver to play with some playthings on the desk or on a straw mat on the floor. Besides making the child feel welcome, starting a well-child visit with play serves as a reminder for the provider to counsel on child development.

STEP 2: Check what the caregiver has learned vis-à-vis play and communication in the waiting area play session. Based on the quality of the caregiver's response, praise the caregiver or share 1–2 key messages and demonstrate and practice

[6] APHRC. Evaluation of the feasibility and effectiveness of a health facility-based early childhood development (ecd) intervention in Siaya county, Kenya. Summary report. December 2021.

one age-appropriate play or communication activity with the caregiver and child. This approach not only saves the provider time, but also helps assess the quality of play sessions in health facility waiting areas and decide on appropriate play and communication activities to coach the caregiver.

STEP 3: Engage the caregiver in monitoring the child's developmental milestones using a job aid.

In Mozambique, a poster showing age-appropriate developmental milestones was proposed as the job aid for both developmental monitoring and counseling, building on the practice already observed among many providers. Meanwhile in Kenya, providers indicated their desire to use the Ministry of Health's Mother & Child Health Handbook (which every pregnant woman receives at her first antenatal care visit) as the primary job aid for developmental monitoring and counseling, while relying on additional job aids as needed (covered in a separate brief).

These steps largely correspond to what is recommended in well-child guidelines but remove the need for extensive counseling of every caregiver during a busy day and require the use of fewer job aids.

A nutritionist checks developmental milestones with a mother during a well-child visit, while the child plays on a straw mat, Nampula, Mozambique. Photo: PATH.

Results

Following co-creation, PATH worked with government to train service providers in the refined solution in four high-volume health facilities in each of Mozambique's Monapo District (Nampula Province) and Kenya's Siaya County. In Kenya, four additional health facilities were engaged as control sites, where service providers were not trained in the refined solution. A convenience sample of caregivers exiting well-child services was interviewed in both countries before and after implementation to probe their experiences. In Kenya, the sample sizes were 48 caregivers at both points in time in the facilities where the refined solution was implemented. In the control sites, the sample sizes before and after implementation were 45 and 39 caregivers, respectively. In Mozambique, the sample sizes were 24 and 26 caregivers before and after implementation, respectively. Additionally, in Mozambique, 12 structured observations were conducted to assess the quality of well-child visits before and after implementation.

Solution testing in both Kenya and Mozambique demonstrated that providers are able to implement the key steps with a high degree of fidelity.

In Kenya, implementation was significantly associated with more playful provider-child interactions during well-child visits compared to the control group (p=0.002) [Figure 1]. Data collected at the end of the solution testing period showed that more service providers in the implementation group asked caregivers what they had learned in the waiting area vis-à-vis play and communication compared to the control group (81 percent versus 23 percent, respectively) [Figure 2]. Furthermore, more providers in the implementation group were found to be conducting developmental monitoring at the end of the solution testing period compared to the control group (94 percent vs. 62 percent, respectively) [Figure 3].

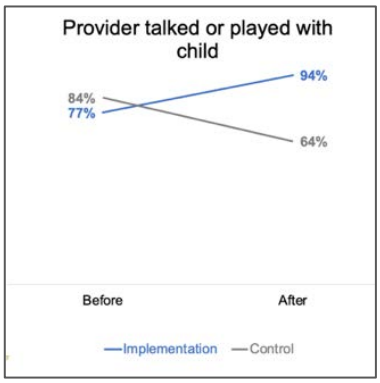

Figure 1. *Provider interactions with a child during well-child visits in Kenya.*

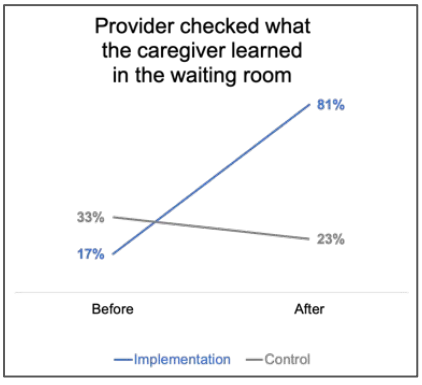

Figure 2. *Provider follow-up on playbox session, during well-child visits, Kenya.*

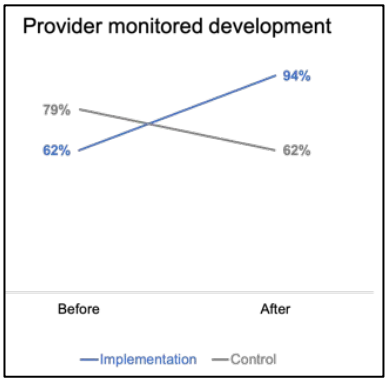

Figure 3. *Provider monitoring child development during well-child visits, Kenya.*

In Mozambique, solution implementation resulted in all observed service providers playing with children at the start of a well-child visit, compared with only two-thirds of service providers observed doing so prior to implementation. Placing a straw mat with a few playthings on the floor—on which the child would be placed during the well-child consultation—acted as a prompt for the provider to include ECD content (Figure 4). Before solution testing, none of the observed service providers asked caregivers what they had learned in the waiting area vis-à-vis play and communication. At the end of the solution implementation period, this had risen to 75 percent. Additionally, while developmental monitoring was being carried out in only a quarter of well-child visits prior to solution implementation, solution implementation was associated with half of observed service providers conducting developmental monitoring at the end of the solution testing period.

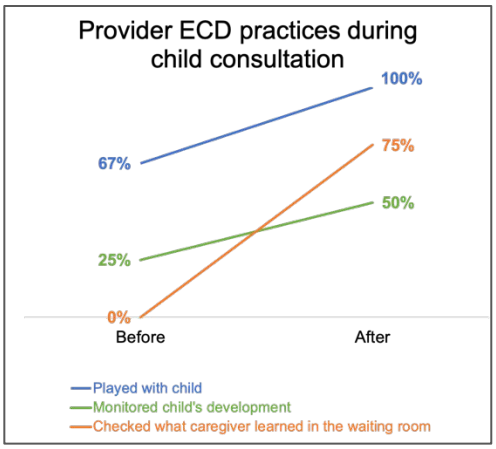

Figure 4. *Provider engaging in key ECD practices during well-child visits in Mozambique.*

Solution testing revealed that service providers may require further training on how to notice and respond to child cues, including children's preference for a particular play item or activity. While many service providers enthusiastically engage children in play in their consultation room, they do not yet routinely pay attention to a child's interests or emotional state and may overwhelm the child with play options.

Next steps

As next steps, we recommend following up with trained service providers to assess that they are able to sustain the co-created solution with fidelity over time. Additionally, we recommend periodically checking in with caregivers to assess for increased ability to demonstrate recommended play and communication practices learned either in the waiting area or during a well-child visit.

We also recommend assessing the applicability of sharing developmental counseling across touchpoints for other services such as sick-child consultations and interventions targeting children exposed to HIV. Children who are sick or have risk factors for poor development may benefit from more structured developmental counseling. At the same time, current treatment protocols and service providers' caseloads may not allow sufficient time to integrate such counseling.

Additionally, it is essential to make the entire health facility experience more child friendly. Notwithstanding play sessions in waiting areas and child-friendly consultations, routine growth monitoring and immunization services are rushed, unpleasant, and scary for young children. For example, they are left hanging on a weighing sling, have their legs stretched for length measurements, forcefully fed medications and supplements, and poked with injection syringes. To promote nurturing care, the entire continuum of care should be a more pleasant experience for young children and service provider–child interactions need to be more friendly.

A service provider starting the well-child visit by playing with a child, Siaya county, Kenya. Photo: PATH.