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Summary Report from Key Informant Interviews and Desk Review

INTEGRATING EARLY CHILD DEVELOPMENT INTERVENTIONS INTO HIV CLINICAL CARE ENCOUNTERS

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Acronyms

| | | | |
|------------------|--|---------------|--|
| 4Children | Coordinating Comprehensive Care for Children Project | RCT | Randomized controlled trial |
| AD | Academic detailing | UNICEF | United Nations International Children's Emergency Fund |
| ART | Antiretroviral therapy | USAID | United States Agency for International Development |
| CCD | Care for Child Development | WHO | World Health Organization |
| ECD | Early childhood development | | |
| EDI | Early development intervention | | |
| HIV | Human immunodeficiency virus | | |
| LMIC | Low- and middle-income country | | |
| OHA | Office of HIV and AIDS | | |
| OVC | Orphans and vulnerable children | | |
| PEPFAR | U.S. President's Emergency Plan for AIDS Relief | | |
| PMTCT | Preventing mother-to-child transmission | | |

Overview

The United States Agency for International Development's (USAID's) Orphans and Vulnerable Children (OVC) team in the Office of HIV and AIDS (OHA) requested the Coordinating Comprehensive Care for Children Project (4Children) to explore the integration of early childhood development (ECD) into HIV programming. This was done with the goal of reviewing evidence and to determine ways that the 4Children program could better support USAID and the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) OVC implementing partners in improving pediatric HIV case identification and treatment *and* developmental outcomes through integration of ECD into clinical care encounters. The 4Children team approached this task initially with a two-pronged approach: 1) a comprehensive literature review, and 2) key informant interviews with experts in the field of early childhood development. This was later supplemented by additional key informant interviews with the specialists from USAID, PEPFAR and ECD practitioners from existing programs showing success, such as Partners in Health (Rwanda) and mothers2mothers South Africa. Data collected from interviews was used to validate the initial findings and prioritize next steps. The resulting *Background Paper on Integrating Early Childhood Development Interventions into HIV Clinical Care Encounters*, in conclusion, provides suggestions for programming.

Methodology

The literature review itself focused special attention on programming and ECD interventions that took place in a clinical setting or within HIV clinical care. Literature was also reviewed that explored approaches for changing healthcare provider behaviors in an effort to identify approaches that might be used to influence healthcare providers to integrate ECD within their work. As such, published journal articles and other documents were found using search of academic resource libraries and search terms such as early childhood development and HIV, HIV and child development outcomes, global health and early childhood, HIV and early childhood programs, and entry points for early childhood programs. Documents were also taken from the 4Children resource library and OVCSupport.org site managed by the project. Lastly, interviewees suggested articles to include in the review. In all, more than 65 documents were reviewed. *(Please see annex for a list of references.)*

A list of key informants working within or with expertise in the field of ECD was initially provided by USAID, and an interview questionnaire was created (*see annexes A and B*). These interviews were later supplemented with interviews with academics, practitioners and PEPFAR representatives. A total of 71 people were identified for interview. In addition, interviewees were invited to suggest additional contacts to be included. Each key informant was sent an interview request and a reminder if no response was received after two weeks. A total of 31 people responded and completed interviews. Each interview took approximately one hour and was conducted by phone or via Skype. Interviewees were asked to describe their current work, current instances of

ECD integration into HIV clinical care, current barriers and opportunities within ECD integration, and for suggestions for changing provider behavior (see Annex B). Each interviewee was also asked to provide suggested resources and other experts to interview. A thematic overview of all the interviews is included in this paper with an aim to strengthen the findings of the literature review.

Situation of Young Children in Low- and Middle-Income Countries

Millions of children under 5 years of age in low- and middle-income countries (LMICs) are failing to reach their potential in physical, cognitive, linguistic and social emotional development, which has implications for their educational attainment, physical health, mental health, social citizenry and economic participation later in life. During their 2016 Human Capital Summit on Investing in the Early Years for Growth and Productivity, the World Bank described investing in the early years as "one of the smartest investments a country can make to break the cycle of poverty, address inequality, and boost productivity later in life." Further, Linda Richter and colleagues deliver the same important message about the cost of inaction in the 2016 Lancet Early Childhood Development Series entitled Advancing Early Childhood Development: From Science to Scale, stating "if children are unable to fulfill their social and developmental potential this not only harms their futures, but also the societies' in which they live." Authors state the critical importance of integrated services inclusive of all children and across health, education and social platforms, including stimulation, parenting, educational support and health and nutrition.

Black et al. (2017) estimate that 250 million children under the age of five years in LMICs are at risk for not attaining their developmental potential because of poverty, nutritional deficiencies and inadequate learning opportunities. In 2011, Walker et al. estimated that this number would continue to increase without more substantial focused investment, while a 2016 study by Lu, Black and Richter finds that "progress has been made in reducing the number of children...scaling up of effective interventions targeting the most vulnerable children is urgently needed." Poor levels of stimulation in the home, chronic undernutrition (stunting) and iron and iodine deficiencies are key risk factors contributing to the underdevelopment of children (Walker et al., 2011).

There has been a 47% reduction in new HIV cases in children 0-14 years old since 2010 (UNAIDS, 2017). Women living with HIV having access to antiretroviral therapy (ART) during pregnancy and breastfeeding has been a critical factor in this reduction, however in 2016, 24% of pregnant women with HIV did not have access to ART according to UNAIDS. In 2015, in the 21 highest HIV burden countries, only 54% of children exposed to HIV were tested within the recommended two months (UNAIDS, 2016). The same UNAIDS report states that if an infant has HIV, the likelihood of her/him dying from an AIDS-related illness declines by 75% if she/he is given ART within the first 12 weeks of life; therefore, WHO recommends that exposed infants be tested at the first postnatal visit. This evidence and what is known about the economic and societal

importance of investment in the early years compel the need to do more to improve integration of early childhood development in clinical HIV care.

IMPACT OF POVERTY

Undernutrition linked to poverty is estimated to contribute to 35% of all child deaths due to measles, malaria, pneumonia and diarrhea. It also contributes to stunted growth for 200 million children worldwide (Black, Allen, Bhutta et al., 2008). Poverty and undernutrition in the preschool years accounted for a loss of more than two grades in school and a decrease of 30% in later adult income (Grantham-McGregor, Cheung, Cueto et al., 2007). One recent study revealed that in a small sample in South Africa, school-age girls with HIV-positive mothers were at increased risk of grade repetition (Mitchell et al., 2015).

Poverty has also been associated with higher levels of exposure to stressful conditions (Evans, 2004). These stressful conditions, of which HIV is one, can ultimately deregulate children's response systems, which can result in poorer health outcomes, increased disability, decreased learning and social problems (Evans & Kim, 2007; Lupien, King, Meaney & McEwen, 2000; McEwen, 2003; McEwen & Wingfield, 2003). Significant stressors, beginning in utero and continuing throughout the early years, can lead to long-lasting impacts on brain architecture and function, which are then later associated with stress responsiveness, learning, health



Children impacted by poverty, living with HIV, or uninfected but exposed to HIV are all at risk of falling behind in reaching developmental milestones.

Photo by Sara A. Fajardo for CFS

outcomes, and social relationships (Shonkoff, Richter, van der Gaag & Bhutta, 2012; The National Scientific Council on the Developing Child, 2012 and 2014). Luby et al. (2013) found that poverty was associated with negative brain changes in children, including smaller white and cortical gray matter and hippocampal and amygdala volumes.

EARLY CHILDHOOD VULNERABILITY AND HIV

For children affected by HIV, the risks are even greater. Infants living with HIV have been found to suffer significant mental and motor delays during the first two years of life (Potterton, 2008). A study conducted in South Africa with HIV-positive children under three and a half years of age found that 72% of the children had severe motor delay, and 52% had severe cognitive delay (Baillieu & Potterton, 2008). A more recent review of 21 studies from 2008 to 2013 also found evidence of cognitive, language and executive function delays in HIV-positive children as compared to controls (Sherr, Croome, Castaneda et al., 2014). Such impairments, without intervention, are likely to become more severe as the children get older and over the lifespan (Blanchette, Lou, & Fernandes-Penney, 2001; and Sherr, Croome, Bradshaw, & Castaneda, 2014). A 2012 meta-review of 31 studies of HIV and child development outcomes concluded that HIV-positive children who acquired HIV during the perinatal period tended to display poorer mean developmental scores than HIV-unexposed children (Le Doare, Bland & Newell). A 2016 review and meta-analysis by Phillips, Amos, Kuo, Hoare et al. found that working memory and executive function were the cognitive domains most affected by HIV in perinatally infected children. Treatment before 12 weeks and treatment with a complex antiretroviral regimen resulted in improved mean scores.

Neurological and developmental delays are often markers of HIV infection in infants, which may precede other signs of disease progression (Bisiacchi, Suppiej, & Laverda, 1999). HIV infection in infants and children is characterized by either a progressive or static loss of previously acquired developmental milestones with cognitive, behavioral and motor manifestations (Udgirkar & Tullu, 2003). These symptoms may indicate HIV encephalopathy. Timely testing and early treatment initiation are vital. Without treatment, more than half of infants and young children with HIV will die before reaching their second birthdays (Nelson et al., 2004). Starting treatment early is very effective and is the best way to keep children healthy and leading normal lives (Thurman et al., 2016).

Children who are HIV-negative, but HIV-exposed, are also found to have poorer developmental outcomes and more cognitive and motor deficits than non-exposed children (Van Rie et al., 2007; Le Doare, Bland & Newell, 2012; and Sherr, Macedo, Cluver et al., 2017). Regardless of their own HIV status, children who are affected by parental or familial HIV face increased exposure to co-varying developmental risks such as poverty, disrupted caregiving and loss of parental care, malnourishment, abuse, psychological trauma and abandonment. In their Seventh Stocktaking Report on children and AIDS (2016), UNICEF found that children orphaned by AIDS or otherwise affected by HIV in sub-Saharan Africa face increased risk of physical and emotional abuse as compared to other children, and thus have increased vulnerability to

HIV. HIV-exposed children are less likely than non-HIV exposed children to have their basic needs met and are more likely to miss developmental milestones and become HIV positive themselves. The increased stress of living with and managing chronic illness has an impact on families and children.

“Effective early childhood interventions could decrease lifelong burdens on health care and social services, as well as prepare children to succeed in school. These include services for building the foundations of healthy development, increasing caregiver, service provider and community capacity, and directly addressing risks.”

—Jack Shonkoff, MD, Center for the Developing Child at Harvard University, in his address to the World Conference on Early Childhood and Care (2010)

Early Development Interventions

HEALTH AND NUTRITION

In order for children to develop to their full potential, the evidence is clear that good nutrition (especially sufficient iron, iodine and breastfeeding) is required to ensure adequate growth prenatally and in the first two years of life. Exclusive breastfeeding for at least six months helps infants get a strong start and reduces risk of illnesses such as diarrhea, pneumonia and HIV (World Health Organization, 2018a), while poor nutrition leads to early stunting and poor cognitive and educational performance (Daniels & Adair, 2004; Grantham-McGregory, Powell, & Chang, 2000), as well as poorer psychological functioning (Walker, Chang, Powell, Simonoff, & Grantham-McGregor, 2007). Fortunately, there are several studies demonstrating that it is possible to at least partially reverse this damage through nutrition rehabilitation, coupled with purposeful ECD programming (Black, Dubowitz, Krishnakumar, & Starr, 2007; Cheung, Khoo, Karlberg, & Machin, 2002). Antenatal care is a critical factor in early nutrition, health, preventing HIV transmission, early detection and treatment after birth and strong nutritional starts for babies (World Health Organization, 2018a; World Health Organization, 2016; and UNICEF, 2012).

Repeated bouts of illness and exposure to viruses, drugs and environmental toxins (such as lead and mercury) are associated with reduced learning potential. Children need to be in good health and protected from harmful exposures.

The healthy development of a child’s brain depends on multiple positive experiences. Nutrition feeds the brain; stimulation sparks the mind; love and protection buffer the negative impact of stress and adversity. And distinct interventions are mutually supportive, achieving the strongest results when delivered together.

—Lake & Chan (2014)



Inadequate health and nutrition in infancy leads to poor cognitive and physical development, but studies show that it is possible to reverse these effects through nutrition rehabilitation combined with ECD interventions.

Photo by Nancy McNally/CRS

Sound practices that take into account safe water and good hygiene, protection from malaria, and up-to-date immunization status help to ensure that children get off to a healthy start and that risks to HIV are minimized (Republic of Zambia Ministry of Health, 2017, and Spring Nutrition, n.d.). While specific threats to development can stem from either biological or environmental influences, the most significant vulnerability arises from the cumulative burden of multiple risk factors. Early health care is critical to reducing risks and exposures. Regular infant and child visits to the health clinic can ensure that early and regular HIV testing happens as well (World Health Organization, 2018b).

However, core training curricula for many primary health workers often do not include the essential knowledge or serve to build the necessary skills to work in partnerships with families. Many health professionals still confuse ECD services with early childhood education, while others equate ECD with developmental screening. In reality, ECD services should foster physical growth, social and emotional development and language and cognitive skills. Ensuring children’s optimal development across all these domains is a major objective of many health services. Quality antenatal care, breastfeeding, growth monitoring and immunization should be considered core ECD interventions, as should attempts to support neurocognitive development (Slemming, Saloojee, & Berry, 2013).

EARLY STIMULATION

While malnutrition impacts healthy brain growth, school achievement and life outcomes, children also need care, responsiveness and stimulation for healthy growth and development. Deficiencies in stimulation, and in the quality of relationships in the early months and years, have been shown to stunt emotional, social, physical and cognitive development (WHO, 2012; Black, M. et al., 2008; WHO, 1999). The potential for early development interventions (EDI) that combine psychosocial stimulation with nutritional and health support improve child development in LMICs has been well recognized. The vast majority of randomized controlled

trial (RCT) studies in LMICs looking at the first five years of life show significantly higher cognitive functioning among children who received such intervention compared with children in the control group (Walker et al., 2007). These trials have collectively targeted children exposed to a range of risk factors, while follow-up studies have consistently reported lasting effects of EDIs, including up to 17 years later (Walker, Chang, Powell, & Grantham-McGregor, 2005).

Stimulation interventions have been found particularly effective in supporting and fostering cognitive, socio-emotional and linguistic development. These interventions are based on the well-established finding that children need play, learning and exploration opportunities, activities and materials, along with adult conversation and reciprocal communication, for healthy brain development and in order to develop cognitive and language skills during their first few years (Tamis-LeMonda, 2001) and to support later learning and life outcomes. A 2015 systematic review and meta-analysis of 21 early stimulation interventions and 18 interventions that provided better nutrition—all conducted since 2000—revealed that stimulation had a medium effect size of 0.42 and 0.47 on cognitive and language development, respectively, whereas nutrition by itself had a small effect size of 0.09 (Aboud & Yousafzai, 2015).

Four Delivery Formats of Early Stimulation Interventions:

- Home visits
- Group sessions
- Groups with home visits
- Clinic appointments

—Aboud & Yousafzai, 2015

In the aforementioned 2015 review, nine studies used the home visiting model in which a trained paraprofessional visited weekly or monthly to talk and play directly with the child while the mother watched. Play materials or picture books were often left in the home and replaced during the next session. The curriculum specified age-appropriate activities to conduct with the child during each session. In the second model, group sessions allowed a village peer educator to address small groups of mothers who brought their children to the session. The manual of activities included demonstrations of playing or talking activities to practice with the child, followed by mothers practicing the techniques while a coach observed. The children ranged in age, so the focus was aimed at showing mothers age-appropriate activities. The third model used well- or sick-baby clinic visits as an opportunity to assess a mother's knowledge of early childhood development and stimulation activities, and to counsel her on improved practices; this was usually done by a professional (Aboud & Yousafzai, 2015). Regardless of delivery strategy, stimulation interventions at large were shown to be successful in improving mental development.

For children living with HIV, receiving treatment and/or exposed to HIV and associated risks, early stimulation and



Home visiting by a trained paraprofessional is an effective platform for supporting caregivers and mentoring them in early stimulation activities.

Photo by Karen Kasmauski for CRS

other ECD interventions have the potential to dramatically improve their development outcomes. In a 2013 RCT, caregivers of infants living with HIV were provided home stimulation techniques during clinic visits every three months. This resulted in substantially higher cognitive scores at 12 months of age. Initially, the mental developmental indexes (MDIs) for both the control and treatment group were extremely low, and nor were there significant differences between the two groups with respect to MDI ($p=0.27$) at baseline. However, over the year, the degree of change was significantly greater ($p=0.01$) in the experimental group (from MDI 62.6–69.3) than in the comparison group (from MDI 68.5–64.3). The intervention had similar effects on psychomotor development, which showed greater improvement among the experimental group (from PDI 49.8–70.5) than in the comparison group (from PDI 57.4–65.9) (Boivin, Bangirana, & Nakasujja, 2013).

EARLY RELATIONSHIPS

The importance of early relationships, parent-/caregiver-child bonding and healthy attachment have been well documented. As recently documented by the National Scientific Council on the Developing Child (2004), “healthy development depends on the quality and reliability of a young child’s relationships with the important people in his or her life, both within and outside the family.” Early relationships are no less important for young children affected by HIV, and are critically linked to other areas of early childhood development, namely, health, nutrition, stimulation and early learning. These early relationships form into secure attachments, which in turn contribute to the development of competencies such as ability to learn and explore the world, positive social skills and self-image, successful later relationships and more. Spies, Sterkenburg, Schuengel and Van Rensburg (2015) find that the impact of HIV on healthy attachment relationships is largely unknown. In their 2016 review of existing literature these same authors find that rather than poor attachment being associated with HIV symptomatology, secure attachment was associated with the degree to which caregivers, mothers in particular, had emotional support in times of stress and illness. Families affected by HIV experience higher psychosocial and stress problems than non-affected

families. Sherr, Skeen, Hensels, Tomlinson and Macedo (2016) further describe the link between HIV and parental depression, and the role of depression in negative childhood outcomes. Addressing mental health and psychosocial support in HIV care and treatment, particularly perhaps for mothers and caregivers of young children, then becomes of paramount importance.

PARENTING AND CAREGIVER SUPPORT

Having someone to talk to, someone to trust and turn to, has been shown to help families get through difficult times (Center for Disease Control, 2013; and Betancourt et al., 2011). Betancourt et al. found that parents who feel they have the support of a friend, a neighbor, extended family or a faith community are better able to deal with stress and raise children positively (2011). Positive parent-child relationships, which begin in infancy, impact child health, development, behaviors and socio-emotional well-being over the lifespan (Collins et al., 2000), while conversely ignoring children's needs and emotional withdrawal can lead to poor child health and development, including increased HIV risk behaviors as children get older (Oates, J., 2010, and O'Connor, T. & Scott, S., 2007). A major contributor to the successful increase in treatment coverage for pregnant women living with HIV has been the involvement of communities. Entry to, and retention in, care have been shown to greatly improve through community engagement and support, and through community service-delivery models. Networks and support groups of women living with HIV have been particularly valuable in boosting outreach activities and PMTCT service delivery, providing counseling, supporting treatment adherence, educating women about their reproductive rights, encouraging them to seek care and HIV testing, and providing psychosocial support to women coming to terms with a new diagnosis of HIV (UNAIDS, 2016b). Lachman, Cluver, Boyes, Kuo and Casale (2014) further found that parenting interventions that "situate positive parenting within a wider ecological framework by improving child behavior problems and caregiver depression may buffer against risks for poor child mental and physical health outcomes in families affected by HIV."

Researchers looking at toxic stress and brain development found that the effects of poverty on hippocampal volume were mediated by caregiving support and that effective/responsive caregiver support can serve as a buffer in situations of toxic stress¹ (Center for the Developing Child,

The mothers2mothers (m2m) South Africa program takes a peer education and mentoring approach at the clinic and community levels. The mentor mothers enroll peers and link them to health facilities, while providing ECD support through home visiting and group sessions. Young children have a space for play experiences while mothers are talking.

—mothers2mothers South Africa
<https://www.m2m.org>

2007; Guedes, et al., 2016; Shonkoff, 2016; National Scientific Council on the Developing Child, 2012 and 2014). Enabling a household to move away from economic vulnerability can lead children to benefit from better nutrition, the opportunity to go to school instead of work and better access to health care (International HIV/AIDS Alliance and Save the Children, 2012). Evaluations of national social protection programs have established that social protection (in particular, cash transfers) contributes to improving access to health, education and nutrition, strengthening social networks, increasing access to treatment and prevention and reducing child and adolescent vulnerability and risk-taking (UNICEF, 2016b). One implementing partner interviewed agreed, saying, "Besides health entry points, household economic strengthening, village savings programs and social protection interventions can also be key entry points for ECD activities."

"The most fundamental promotive experiences in the early years of life come from nurturing care and protection received from parents, family, and community, which have lifelong benefits including improved health and well-being, and increased ability to learn and earn."

—(Britta, Lye, Proulx, et al., 2016)

Parenting programs help to build stronger parent-child relationships and teach parents about child development so they are better able to recognize developmental issues (Richter, L.M., & Naicker, S., 2013). Vollmer, Bommer, Krishna, et al. (2016) found that both higher maternal and paternal education levels are associated with lower childhood under nutrition. Authors found that paternal education is equally important to maternal parenting education in improving childhood outcomes. One interviewee from USAID said, "ECD is such a good opportunity to engage the whole family, and it is critical to look also at male engagement in care of the young child."

The implementation of ECD stimulation programs, as well as parenting skills programs, requires a standardized, evidence-based curriculum, a delivery format, and trained personnel, usually paraprofessionals who require supervision. However, basic stimulation, communication and attachment/bonding messaging and caregiver practices can be integrated into routine parent and caregiver skills-building training, tools and job aids in a lower cost, layered approach (e.g., integration of ECD messages in parenting skills training, case management processes and home visiting). The technique most strongly correlated with mental development gains was the use of small media ($r = 0.51$, $p < 0.05$). Media most often took the form of small posters, cards or brochures illustrating the stimulation practices and given to parents as a take-home message. Six of the 21 programs provided media, mainly as a replacement to providing play materials. They served as a

1 Harvard University Center on the Developing Child defines "toxic stress" as when a child experiences strong, frequent and/or prolonged adversity—such as physical or emotional abuse, chronic neglect, caregiver substance abuse or mental illness, exposure to violence and/or the accumulated burdens of family economic hardship—without adequate adult support. This kind of prolonged activation of the stress response systems (including the hormone cortisol) can disrupt the development of brain architecture and other organ systems, and increase the risk for stress-related disease and cognitive impairment well into the adult years. <http://developingchild.harvard.edu/science/key-concepts/toxic-stress/>



Parenting programs are most successful in supporting caregivers and building skills when there is a standardized curriculum and format delivered by trained personnel.

Photo by Sara A. Fajardo for CHS

means of instruction, particularly for less educated mothers who benefited from the illustrations of materials and play activities. They also served as a reminder in the home for mothers who may have forgotten to provide opportunities for play and conversation or thought they had to buy toys as a means of stimulation.

Performance and problem-solving were the second and third strongest correlates (both $r = 0.34$, $p < 0.12$). Nineteen interventions used a performance component that included demonstrations of the practice, having mothers engage in the practice with their children, and providing feedback. Of those interventions that included performance-related activities, eight appeared to have the trainer demonstrate how to talk and play with the child during home visits (Walker et al., 2011; Nahar, Hossain, & Hamadani, 2012). Other studies had mothers explicitly practice the activity with their children; activities included playing a game with materials or talking about pictures while the peer educator coached and gave feedback (Laughton et al., 2013; Aboud & Yousafzai, 2014 and 2015). Overall, parents feel more supported and reassured by programs that actively involve them in the care of their children and provide them with practical skills for dealing with the issues they face. Parents are more responsive to their children and the quality of their interaction is enhanced when parents are given age-appropriate information and time to practice learned skills (Richter & Naicker, 2013).

Integration of ECD in Clinical Care

HEALTH AND NUTRITION PROGRAMS

Health and nutrition programs are often the only services reaching children under 3 years of age; therefore, health care encounters may be the only opportunity for professionals in LMICs to have a positive influence on the development of the young child (Ertem et al., 2006). Through the health sector, there is a potential for ECD services to reach large numbers of children in remote, rural and disadvantaged communities where few other services exist (Yousafzai, 2014). Children in rural areas with poor health and nutrition are also at risk of poor development. Furthermore, if existing health and

nutrition staff could integrate child development activities into their services, additional benefits for children could be achieved at lower cost than stand-alone services (Grantham-McGregor, 2014).

To promote the integration of ECD into clinical services in health facilities worldwide, the World Health Organization (WHO) and UNICEF collaborated to develop the Care for Child Development (CCD) clinical care package designed to be adopted as part of the regular child health visits as specified in the WHO/UNICEF strategy of Integrated Management of Childhood Illnesses. The original toolkit has been expanded for use in other initiatives, including the Accelerated Childhood Survival and Development, Infant Young Child Feeding and Maternal and Newborn Health Care programs. The CCD intervention provides information and recommendations for cognitive stimulation and social support to young children through sensitive and responsive caregiver-child interactions. The potential of incorporating Care for Development into primary health care as a strategy to improve coverage was envisaged a decade ago, but has not yet been fully explored and even less applied to scale (Tamburlini, Manetti, & Toffol, 2011).

Where traditional ECD services are limited, WHO has recommended that the health sector adopt a counseling approach, asking targeted questions of parents. Assessments of parental concerns and psychosocial risk factors using validated approaches seem to be more accurate in identifying developmental problems than clinicians' appraisals (Regalado & Halfon, 2001). Parents are ready sources of clinical information, and they can be asked to provide two broad types of data: appraisals, including concerns, estimations, and predictions; and descriptions, including recall and report. There are several formats for eliciting parental information that are superior in terms of accuracy and ease of evocation (Glascoe & Dworkin, 1995).

The promotion of responsive infant feeding is an example of an activity that integrates nutrition and ECD. When done correctly, responsive feeding allows the caregiver to be attentive to the child's cues of hunger and satiety and her/his feeding needs and preferences, helps ensure the child's dietary intake is well matched to his/her needs, and improves communication between the child and the caregiver, which helps develop the child's nonverbal and verbal communication skills.

—USAID Technical Brief, 2016

WHO proposes that health clinics build the integrated management of childhood illness counseling process by including a CCD module and referral mechanisms to specialist services where feasible (Slemming et al., 2013). These key counseling questions could be integrated into sick visits and regular antenatal, PMTCT or pediatric consultations and include specific questions regarding HIV. The revised visit schedule should coincide with key transition points in the child's development and key points for testing, but

should also recognize the limited capacity of both clinic and caregiver to increase the number of consultations beyond what is currently recommended.

Conrad N. Hilton Foundation works with partners to strengthen and scale up CCD, with a focus on HIV-affected children, across multiple settings to best reach caregivers living with HIV, including in clinical health services, clinic waiting rooms, group education sessions and home visiting.

—Cognitive Development Interventions Gain Momentum in Health Delivery Settings in East and Southern Africa (2016)
www.hiltonfoundation.org/priorities/children-affected-by-hiv-and-aids

REGULAR CHECK-UPS AND WELL-BABY VISITS

In some contexts, the well-baby or well-child approach is standard practice for regularly monitoring a child's growth and development through regularly scheduled appointments with a healthcare provider. This approach focuses on preventative care rather than illness response, and often includes immunizations and plotting a child's development indicators against a standard minimum (American Academy of Pediatrics (AAP), 2015). This allows healthcare providers to closely and regularly monitor development, determine if the child is developing at a healthy rate, and intervene in a timely manner if the need arises. Those interviewed agreed. One PEPFAR implementing partner comments, "Our experience is showing the importance of monitoring for child development using tools like the Ages and Stages Questionnaire and Inventory or the WHO Growth Monitoring Tool in terms of catching young children who have developmental delays, which may indicate HIV." Regular checkups are critical entry points for HIV testing and detecting development difficulties that may result from the effects of HIV infection or HIV exposure. WHO recommends HIV-exposed infants be tested at least on or by their first well baby check. Physicians, nurses or community health workers can conduct check-ups in a variety of settings.



A well-child approach takes a holistic approach to child development by monitoring not just physical growth but developmental growth.

Photo by Sara A. Fajardo for CDS

The well-child approach takes a holistic approach to child development by monitoring several influential factors like nutrition, learning, growth and social behaviors. This can be an opportunity for healthcare providers to educate parents on developmental milestones, hygiene methods or illness prevention, and to raise awareness about the importance of ECD. A PEPFAR implementing partner reported that "having simple messages at clinic while caregivers are there is an easy way to increase awareness and knowledge on ECD." These visits are also an opportunity to discuss parental concerns, such as sleeping habits, lactation issues or the child's recent behavior (AAP, 2015).

While regular well-child visits are rare in many LMICs, the recommended check-ins and testing visits, paired with maternal treatment visits in PMTCT, may provide opportunities for infant developmental check-ups and monitoring. Infant testing is recommended at four to six weeks of age and six weeks after cessation of breastfeeding (PEPFAR Technical Considerations for 2015 COPS and ROPS). Integration of PMTCT services into ANC clinics may provide additional opportunities for testing and monitoring of HIV-affected children, as well as heightened monitoring and recognition of potential cases in high prevalence areas. In addition, improved linkages between PMTCT and community-based services has the potential to improve retention and adherence of mothers and infants in treatment (Marcos, Phelps, & Bachman, 2012).

Barriers to Integration

Even when doctors have received high-quality training in early child development activities, time constraints, low levels of reimbursement for preventive pediatric care, lack of reimbursement for specific developmental services, lack of trained non-physician staff members, limited access to community services to support families and children and few external incentives have all been reported as reasons why the needs of children and families are not being fully met. Some studies have indicated that it is not possible in the time available to provide even the few recommended ECD services and assessments (Schor, 2004). Health clinics are likely to be even more overstretched in low- and middle-income countries, where there are fewer medical staff and potentially higher disease burden. Some argue that there is a danger of overloading these services and reducing their effectiveness (Grantham-McGregor, 2014).

Similarly, pediatric HIV clinics in developing countries are understaffed, and children may be seen by junior staff or screened by nurses due to the high numbers of clinic attendees. This often results in neurodevelopment being inadequately assessed and children not being referred for intervention services (Hilburn, 2011). Failure to adequately monitor the development of HIV-infected or exposed infants has the potential to affect the quality and timeliness of treatment. For example, encephalopathy is one of the most common central nervous system disorders among HIV-infected children worldwide, but neurodevelopmental assessment is rarely performed in developing countries due to a shortage of skilled staff and a lack of validated

assessment tools (Rie, Mupuala, & Dow, 2008). This results in missed opportunities for timely initiation of highly active antiretroviral therapy (HAART), as well as for the prevention and management of HIV-associated neurodevelopmental impairment (Hilburn, 2011).

Although the capacity of the clinic may be limited, mothers infected with HIV have expressed the need for one point of call for all services. In one RCT of an EDI for HIV-affected children, the intervention was administered at the clinic on the same day the mother had an appointment to see the doctor, and the intervention was treated as an integral part of clinical services (Hilburn, Potterton, Stewart, & Becker, 2011). While this method ensures that children receive the intervention during the clinical visit, there may also be a limit to the number of messages that a mother can absorb at one time (Grantham-McGregor, 2014). Aboud and Yousafzai (2015) found that mothers who are overloaded with other work and are not highly educated may reach their limit with four to five practices.

One pediatrician working at USAID shared, “Transportation and access barriers can be real and serious issues for caregivers of young children to reach clinic services. Therefore, it is important to consider early childhood development interventions on existing clinic days.” Access is especially a struggle for families living in rural areas, families living with a chronically ill individual, or families that have been referred to a specialist. Specialists are often located in urban areas, and transportation and clinic fees are cited as common problems. One informant noted that these resource deficits, along with a lack of provider knowledge, contributed to children disappearing from the health care system between their last immunizations at 18 months and when they enter school at around age six, making it very difficult for ECD milestones or interventions to be monitored. Furthermore, a 2015 RCT conducted by Singla, Kumbakumba and Aboud in Uganda found, “Maternal wellbeing is important for child development, especially in children younger than 3 years who are vulnerable and dependent on their mothers for nutrition and stimulation”; however, there is a critical lack of services to link caregivers to mental health services and women suffering maternal depression to treatment and psychosocial care. Maternal depression, in particular, has been found to greatly impact the ability to respond to infant needs for both care and responsive stimulation, not to mention getting to clinic, being retained in care, and adhering to treatment.

Many experts noted that clinics lack sufficient materials to teach caregivers about the importance of ECD. Overall, in low resource settings healthcare providers are underpaid and overwhelmed by their current workload. For many, ECD is viewed as an add-on service or care that is not essential. Many providers view ECD in terms of education and separate from routine pediatric assessment or treatment. There is a misunderstanding of the importance of ECD within the first five years and how this relates to a child’s health and ability to survive and thrive. Many key informants attributed this misconception to a lack of training and unfamiliarity with the age group. Within HIV clinical care and treatment, healthcare providers are reluctant to treat children if they do not

specialize in pediatric care. Many providers feel unequipped to calculate and monitor child dosages, and for this reason, children living with HIV are often referred to specialists at larger facilities. Providers are hesitant to even monitor these children for ECD and would prefer their care at large be managed elsewhere. Interviewees also noted that many healthcare providers are not trained in ECD and do not feel equipped to discuss ECD as part of health care visits.

There is a need for additional evidence-based materials on and interventions in ECD, and specifically on integration of EDI within HIV care. Informants noted that there is a lack of research in low-resource settings to support standardized materials and interventions. As a result, interviewees noted that new models are proliferating without standardization, and existing models are adapted ad hoc for cultural competence. One interviewee noted that it would be ideal to have standardized handouts for parents for each age level that could be sent home with parents; healthcare providers should also have a corresponding sheet and cover key components during the clinic visit. Ideally, home health workers or social service workers would then also follow up with that family after the clinic visit to reinforce the main messages from the clinic visit and the sheet.

Experts stressed that adapting existing intervention models to meet local needs is crucial to better communication between stakeholders at all levels. Better communication could also lead to stronger referral systems, which could address some of the aforementioned barriers faced by resource-strapped caregivers, as well as create more follow-up opportunities. A more robust and culturally diverse evidence base is also needed in order to increase clinician and government buy-in. Promotion of ECD by these respected individuals could lead to a paradigm shift about the importance and role that ECD plays in a child’s life.

Strategies and Opportunities for Integration

While the literature clearly demonstrates the need for additional focus on ECD and highlights the clinical care setting as an optimal source for initiation of such focus, there remain many concerns about healthcare providers’ abilities to integrate this within their existing portfolio and a dearth of evidence regarding HIV clinical care, specifically. Assuming many factors could be addressed related to time and resources, there is still a need to change healthcare providers’ behaviors to actually integrate ECD into their practice. As such, it is important to understand methodologies that have been effective at influencing behavior change among healthcare providers.

BUILDING CAPACITY OF PRACTITIONERS

Interviewees suggested that healthcare providers needed to be trained in ECD and develop comfort with ECD in order to integrate it within their clinical care. “There is a perception that ECD is education, which means that we miss out on important opportunities to address physical and socio-emotional development, particularly for infants under one year and for HIV-exposed infants,” said one colleague from



The use of waiting rooms is often cited as an opportunity for integrating ECD into clinical care, but building capacity of practitioners and training in easy-to-use job aids is also needed to fully capitalize on the clinic-caregiver touchpoint.

Photo by Karen Kasnauski for CHS

USAID's OHA. Healthcare providers need to understand why ECD is important and how it impacts health outcomes, so that they begin to see ECD as a key part of pediatric care and not as an add-on. Ensuring that ECD is included in medical and nursing curricula was also suggested by one interviewee; however, "We need to be thinking about building a workforce in a way that builds upon the skills that they learned previously," said one academic with experience in HIV clinical workforce issues.

Educational outreach and educational visiting (known as academic detailing), and mentoring and peer-to-peer learning are approaches aimed at improving practices and medical decision-making. Research suggests that traditional methods of education, such as didactic, lecture-based continuing medical education sessions, have little to no effect on the behavior of health professionals. However, academic detailing has shown to be an effective and efficient method for promoting behavioral change among health professionals in a variety of clinical decision-making areas (Honigfeld, Chandhok, & Spiegelman, 2012). Several studies show that academic detailing can significantly improve correct patient diagnosis, provider prescribing patterns and adherence to treatment guidelines (Duckett et al., 2015; Honigfeld et al., 2012; Khanal et al., 2013).

Clinical practice and treatment guidelines are often evidence-based and outline promising standards of clinical care. Guidelines are designed to improve quality of care, ensure evidence-based care is delivered when appropriate, and reduce variation in practice (Keiffer, 2015). Clinical practice guidelines are created as tools to augment clinical decision-making; however, several barriers to consistent and correct implementation exist. At the practitioner-level, researchers identified "unfamiliarity or lack of knowledge," "impossible to keep up with all the clinical practice guidelines in the field," and "not knowing the guidelines exists" as the most common barriers (Keiffer, 2015; Maue et al., 2004). When the necessary supplies are readily available and tasks do not require substantial cognitive effort, clinicians often comply with standards (Gathara, et al., 2015; Menchik & Jin, 2014).

Differences in local leadership and supervision may explain variability across guideline adherence at the hospital level.

One strategy to encourage healthcare providers to include ECD in their practice is to create easy-to-understand visual tools that can serve both as a reference when teaching caregivers and a visual reminder for clinicians to observe and inquire about a child's development. These visual aids could also be shared inter-professionally for a more holistic approach. Another strategy, suggested by an informant, was to develop a mentoring program for clinicians. Clinicians should be included in the programming process because they know best what is culturally and contextually appropriate. Further, if older, respected clinicians and clinic leaders understand the importance of ECD, they can serve as credible and reliable sources for younger clinicians. Mentors could work with mentees to identify ways to incorporate ECD into their practice without being further overwhelmed (such as bringing up the topic while caregivers are dressing their child after an examination). This can help providers develop their counseling skills, while also providing caregivers with one or two quick and simple ECD activities that can be practiced at home.

EARLY CHILDHOOD SPACE IN CLINIC SETTINGS

One of the most frequently mentioned opportunities for the integration of ECD into clinical care, including HIV clinic, was the use of waiting rooms as spaces for modeling play and appropriate parent-child interaction. Many informants mentioned that the wait time for services often ranges from three to six hours, and because multiple families are waiting together. Trained nurses or other providers could efficiently use this time. Group workshops outlining a number of possible approaches were listed, including positive parenting skills, the importance of play, the benefits of breastfeeding, the importance of good nutrition and how to engage and stimulate your child's development. This method provides caregivers time to practice interventions with trained personnel and receive feedback in the moment. Furthermore, engaging caregivers during waiting times, before and after health care touch points, will also build relationships that will allow healthcare workers or other service providers to treat cases on an individual basis and better identify and address clients' unique and holistic needs. A strong and trusting relationship between healthcare providers and caregivers can also increase medication compliance and the likelihood that caregivers will return with their children for follow-up visits.

Experts also noted that expanding the number and type of professionals that engage caregivers on ECD topics could

The Partners in Health model, Pediatric Development Clinic, supports ECD in high-risk infants and children by providing medical monitoring and care, nutritional care and growth monitoring and developmental care through play and stimulation, with social support for caregivers, delivered to individual caregivers and infants and in caregiver groups by medical nurses and social workers.

4Children programs are integrating ECD into parenting skills training and messaging in case management home visits for OVC. In Democratic Republic of the Congo (DRC), the 4Children partners are facilitating ECD activities within clinics, finding that integrated messages about early childhood can be provided to caregivers while they wait for clinic health services, including ART.

also increase the number of opportunities for its integration into HIV care. This could be achieved by training community health workers, social workers and volunteer groups in ECD and its relationship to early HIV care and prevention, so that everyone is knowledgeable on developmental milestones, good parenting skills and basic interventions related to HIV care and treatment. These efforts can then be supplemented by practical program platforms, such as parent/caregiver skills building, home visiting, case management, support groups and household economic strengthening. (See table on page 20 for suggestions on integration of ECD within these and other platforms.) Taking a systems-wide and holistic approach would unify the message that ECD is important and ease the burden on clinicians to be the sole dispensers of information. In order to train individuals, clinics could partner with community-based organizations that are working on similar issues and leverage their strengths and expertise. This partnership could allow for the development and sharing of resources such as visual aids, books and informational pamphlets. One informant mentioned that taking an inter-professional approach to ECD promotion could lead to the dissemination of materials on a larger scale, and could ultimately benefit caregivers and children in diverse settings, such as prisons and refugee camps. In addition, case managers from partnering NGOs could be assigned to specific cases to ensure that health needs are being met, ensuring the stability of both children and their caregivers. A community worker from partnering NGOs could also facilitate mother-to-mother mentoring programs that would provide young mothers with social support and network of resources.

AWARENESS RAISING

Many of those interviewed raised the issue of lack of understanding of what ECD is, and the need to raise awareness with stakeholders from clinic providers to client beneficiaries. One interviewee from a USAID implementing partner said, “We need to be looking also at what people understand when they hear ‘ECD.’ There’s a focus on health and the whole view of ECD is still not part of the conversation.” Therefore, a third strategy to encourage healthcare providers to include ECD in their HIV care is to raise regional and national awareness of the issue. Many informants mentioned that political buy-in and creating standards of practice for all providers to include ECD with routine pediatric examinations and HIV care protocol are crucial to the wide dissemination of ECD as critical to reaching HIV-exposed and affected infants and young children. As more clinicians begin to address ECD issues,

their confidence will increase and they will feel more comfortable providing caregivers with guidance, assessing and treating children, and identifying early warning signs of HIV, developmental delays and other life-impacting problems. Training nurses and community health workers on ECD could also be helpful because this frees doctors to focus on specialized activity. Interviewees also noted the need to train healthcare administrators so that the clinics and facilities can begin stressing that ECD integration is a key component of care, thereby setting the expectation for integration at the administrative level and creating a supportive environment for the healthcare providers to provide this service.

Several interviewees who are providing ECD as part of an integrated health care service in their programs noted that healthcare providers were initially unaware of the importance of ECD integration. Once trained and knowledgeable, interviewees noted that these healthcare providers were eager to integrate ECD into care. As such, interviewees noted that healthcare providers can change their behaviors with appropriate training. However, one academic warned, “Health workers are overwhelmed and not always open to adding things that they do not see as part of their mandate. Shifting the attitudes around early childhood is important, while also looking at smaller tweaks to systems so that a few ECD messages can be embedded in existing work.” Others noted that training had typically been provided with additional project level funds and was not part of the existing health care plan at the clinics where the providers were working. They therefore noted that some initial resources were required to train the providers and the facility administrators, who then began changing their clinical care standards to include ECD. An ECD consultant shared that “there are many technology opportunities that we can build on — using the resources that are available — building ECD messages into some of the ways social media like *WhatsApp* and mobile messaging is being used, making simple, local video clips to share for parent and clinician education.”



To ensure quality interventions, ECD programs need to raise awareness and build capacity with clinicians and caregivers.

Photo by Daniel Etter for CRS

Recommendations and Integration in PEPFAR Programming

Early childhood development and HIV is a complex programming arena; one that does not have a simple response, that faces many barriers, and that needs a multifaceted approach toward an integrated response. Those interviewed were asked where they believed there was a real and feasible opportunity for impact with limited resources. Recommendations included:

- **Teach parents about the importance of the early childhood period, child stimulation and strengthen parenting skills:** Stimulation was cited among many participants as being the most important factor in a child's development. Stimulation is important for all children's growth, health and survival, but particularly for children who are exposed to the stressors of HIV. Children, regardless of diagnosis, should be engaged in age-appropriate activities with a responsive caregiver. The inclusion of children with disabilities in all stimulating activities can lead to enriched community and social support for the family, while helping to alleviate stigma in the community. When parents are in health care settings, providing support for improved parenting skills can lead to better awareness and response to children's health and development needs. It strengthens the parent-child relationship early, leading to the ability to mitigate HIV risks later.
- **Male involvement:** As men are viewed as leaders and heads-of-households in many societies, their understanding and buy-in of the importance of ECD, HIV's impact on children and the monitoring of developmental milestones could further its acceptance. Paternal involvement greatly affects the social and emotional development of children and alleviates maternal stress and depression. Fathers, uncles, grandfathers and all male figures should be

encouraged to engage and contribute to the care, protection and development of children.

- **Capacity strengthening:** Strengthen ECD knowledge and skills among other professionals and paraprofessionals as well as helping them to recognize early signs of HIV or impacts of stress on children. In general, people are receptive to learning about ECD and how they can help children develop, as well as how health care needs can be better addressed. Other professionals can combine this knowledge with their own expertise and organize activities such as support groups. This will free up clinicians and lead to more holistic approaches to ECD integration.
- **Improve the quality of counseling:** Developmental counseling cards and other resources can serve as a reminder for the provider and the caregiver to discuss ECD and the importance of early intervention for child health and development. Furthermore, reminders can help providers integrate ECD into their examination in a concise, brief and easy manner.
- **Build positive relationships:** Program planners should build positive relationships with clinicians and healthcare providers in a way that promotes understanding and open communication. Just as caregivers are more responsive to providers' advice when they have formed a trusting relationship, the same is true for program staff and providers. Informants noted that providers are more willing to comply with program demands when they feel included and supported.
- **Children most at risk:** Focus interventions in HIV clinical care and address the delays that living with HIV can cause among children. Children living with HIV are more likely to experience delays and children with an HIV positive family member are more likely to face adversity. A couple informants also mentioned that HIV testing and counseling services are a good place to integrate ECD because in many countries, these providers have more time with each patient. A focus on "most at risk" can also include adolescent and young mothers, already a focus of the PEPFAR Determined, Resilient, Empowered, AIDS-free, Mentored and Safe Program (DREAMS), whose children are more at-risk for developmental delay and HIV.
- **Promote ECD in the community:** A greater understanding on the part of health care, social welfare and community service providers, as well as community leaders and influences such as women's group leaders, could minimize the institutionalization of developmentally delayed children and children affected by HIV. Furthermore, a greater understand of ECD could also cut down on referrals and unnecessary travel for families.
- **Developmental tracking systems:** Develop and implement an easy-to-use tracking system of developmental milestones such as those showing



Involving men in the care of children is an important behavior change strategy for ECD programs that can greatly enhance the lives of children and their mothers.

Photo by Sara A. Fajardo for CRS

validity in the African context.² This will streamline the assessment process and make it easier for providers to mentally track growth and development.

- **Research:** More research is needed in order to create a more robust evidence-base and develop new ECD programs, particularly around effective programming to support HIV clinical integration of ECD. These findings can be used for advocacy efforts and can thereby increase government buy-in.
- **Maternal depression:** The health and well-being of the caregiver can greatly affect the current and future well-being of the child. In low resource settings, young children are often carried by their mothers everywhere, even to adult consultations. This should

be seen as an opportunity by all providers to discuss ECD and how the mother-child relationship affects development, as well as to identify maternal mental health issues early on and intervene to mitigate their impact on child development and wellness.

With these recommendations in mind there are several natural entry points for integrating ECD into PEPFAR Programming and HIV clinical care. The following table highlights some initial points of possible entry by technical intervention. Please note that the technical interventions are illustrative of possible interventions only. Many additional technical interventions could be added to this list if desired.

² Such as Ages and Stages Questionnaire version 3 (ASQ-3), which has been shown to have validity in South Africa and Zambia; Van Heerden, A., Hsiao, C., Matafwali, B., Louw, J. and Richter, L. (2017). Support for the feasibility of the ages and stages questionnaire as a developmental screening tool: a cross-sectional study of South African and Zambian children aged 2-60 months. *BMC Pediatr*, 17, 55. See also Sherr, L. and Roberts, K. (2017). *Child Development Testing Review: A Comprehensive Reader to Inform Field Utilization*. USAID: Washington, DC.

| Technical Interventions | Integration Options | | | | |
|--|---------------------|----------------------|------------------------|----------------------------|-----|
| | PMTCT | Testing & Counseling | Adult Care & Treatment | Pediatric Care & Treatment | OVC |
| Parent training and support: Implementing parenting training in early childhood development and positive parenting happens at the family and community levels through parenting skills training programs and home visiting. More basic parent training and support can be provided using simple messaging at PMTCT clinics and in well-baby or specialized child medical clinics. Important health care messages such as those around testing and treatment should be included in parenting training programs and interventions. | X | X | X | X | X |
| Early childhood stimulation: Training for parents and caregivers on infant and young child stimulation via clinical and/or community-based approaches should include integrating ECD into parenting training modules and provide messaging and job aids for community health workers and case workers to share information, model behaviors, and provide mentoring during home visits. Job aids should be available for clinic workers to share with caregivers when they come to clinic visits for themselves and their children. Home visits can include basic developmental screening. | X | X | X | X | X |
| Breastfeeding and early nutrition support: Provide support for mothers to exclusively breastfeed, as well as training regarding the importance of breastfeeding for bonding and stimulation. Teach mothers how to breastfeed safely and mitigate HIV risk (per WHO/host country guidelines), and link early nutrition messaging (such as that done through community health worker visits) to the importance of early HIV testing and treatment. | X | | | X | X |
| Small parenting training groups in community settings: Behavioral interventions delivered in small parent groups in community settings build caregivers' capacity to parent effectively and help children thrive. Examples include mother-to-mother groups, father-to-father groups and peer parenting networks. Parenting messages on ECD early stimulation, attachment, health and parent-child relationship can also be provided through simple messaging and job aids during other kinds of groups such as savings and loan groups or support groups for people living with HIV. | X | X | X | X | X |
| Clinical counseling approaches: Counseling can be delivered by professionals or trained community health workers in the clinic before, during or after a health consultation. This might include counseling parents on simple stimulation practices and the importance of early testing and treatment, as well as assessing the child's development. | X | X | X | X | X |

| | | | | | |
|--|---|---|---|---|---|
| Nutritional skills building and counseling, nutrition supplementation and growth monitoring: Growth monitoring requires routinely measuring the child's weight to assess for delayed/abnormal growth, combined with nutritional supplements when delayed/abnormal growth is detected. These efforts aim to improve nutrition, reduce the risk of death or inadequate nutrition, help educate caregivers, and lead to early referral for conditions manifested by growth disorders. Growth monitoring programs need to include messaging and interventions for detecting HIV issues (e.g., growth failure linked to HIV infection) and educating families on the link between nutrition and HIV, the importance of adequate nutrition for ART efficacy, and the importance of stimulation during the early childhood period. | X | | X | X | X |
| Focus on maternal health: Research shows that children's lifelong trajectories are influenced during the prenatal stage. This activity focuses on ensuring that mothers are provided appropriate health care during pregnancy to support positive child outcomes, including ensuring that mothers' mental health is stable, issues are addressed with counseling and psychosocial support, and maternal stress and distress are mitigated through home-based support (e.g., by case workers). | X | | X | X | X |
| Training and community mobilization: Awareness campaigns deliver education and information on ECD in order to change norms and behaviors and increase advocacy around ECD issues, including the importance of HIV testing and treatment for young children. | X | | | X | X |
| Training of healthcare providers on ECD: Healthcare providers who are involved in HIV care could be trained in the importance of ECD. This would include the importance of early HIV diagnosis and adherence to treatment and care protocols about which they already have knowledge, together with more information on early childhood developmental milestones, basic developmental screening and red flags for developmental delay. This may include simple messaging and job aides to supplement training they already receive. | X | X | X | X | X |
| Integration of ECD into health policy: This may occur at many levels, but should include a focus on influencing national policy to encompass ECD as a key component to be addressed in HIV and health care. | X | X | X | X | X |
| Development of ECD standards in health care: Working with healthcare providers to develop standards for ECD as a key component of care. | X | X | X | X | X |

Annex A: Interview List

| Interviewee Name | Organization | Title |
|---------------------|---|--|
| Linda Richter | Human Sciences Research Council | Professor and Distinguished Research Fellow |
| Dr. Kathrin Schmitz | mothers2mothers, Cape Town | Director of Programs and Technical Support |
| Fiona Burt | mothers2mothers, Cape Town | Senior Technical Advisor, ECD |
| Catherine Kirk | Partners in Health, Rwanda | Director of Maternal and Child Health |
| Aisha Yousafzai | Harvard University | Associate Professor of Global Health |
| Linda Biersteker | GHPPro | Consultant |
| Lucie Cluver | Oxford University | Professor |
| DeeDee Yates | | Consultant |
| Elena McEwan | Catholic Relief Services | Senior Technical Advisor, Maternal and Child Health |
| David Sullivan | Johns Hopkins University | Professor |
| Rachel Golin | USAID | HIV Advisor |
| Christine Fu | USAID | Senior Evaluation Officer |
| Jacqueline Firth | USAID | Medical Officer |
| Tim Quick | USAID | Senior Technical Advisor |
| Damilola Walker | USAID | HIV/AIDS Team |
| Erin Milner | USAID | ECD Team |
| Maureen Black | University of Maryland, Baltimore | Professor of Pediatrics |
| Priscilla Banda | Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) Zambia | Country Director, Zambia |
| Elizabeth Chatora | Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) Zambia | Program Officer |
| Lisa Bohmer | Hilton Foundation | Senior Program Officer, International Programs |
| James Cairns | The Center on the Developing Child, Harvard University | Director of International Programs and Shared Learning |
| Farai Charasika | World Education/Vana Bantwana | Program Director |
| Svetlana Drivdal | PATH, Mozambique | Regional ECD Advisor |
| Matthew Frey | PATH | Senior ECD Advisor |

| | | |
|--------------------------------|---|---|
| Glenda Gray | South African Medical Research Council/Fred Hutchinson | President and CEO/Research Professor |
| Greg Powell | J.F. Kapnek Charitable Trust | Country Director |
| Sharon Ramey | Virginia Tech University | Research Professor of Psychology |
| Nicole Richardson | Save the Children | Quality Improvement Specialist for OVC |
| Debjcet Sen | PATH Kenya | Senior Associate, Maternal Child Health/Nutrition |
| Joseph Sparling | FPG Child Development Institute, University of North Carolina | Retired Research Professor of Educational Psychology |
| Susan Michaels-Strasser | ICAP, Columbia University | Senior Implementation Director and Associate Director of Nursing Programs |

Annex B: Interview Guide

*Some questions were added prior to a second round of interviews; these are noted.

| Key Informant Interviews: Early Childhood Development Integration into Clinical Care | |
|--|--|
| Organization name: | |
| Contact name: | |
| Phone number: | |
| Current position: | |
| Tell us about your current work around ECD. (Probe for where, who, etc.) | |
| We are interested in how ECD can be integrated into clinical care, specifically within the context of HIV. Where have you seen such integration occur and what was the impetus for the integration? | |
| What approaches to integrating ECD into clinical care do you believe are the most effective? Why do you believe they are effective? (Added: Why do you believe they are effective? Is there evidence of their effectiveness?) | |
| What approaches to integration do you see as the least effective? Why do you think they are ineffective? (Added: Why do you think they are ineffective, and what about them should be changed?) | |
| Clinical care providers generally want to help their patients, yet we know that there is a reluctance to add additional work to their days. What could be done to encourage healthcare providers to integrate ECD into their pediatric care? | |
| What additional barriers need to be addressed in order to enable care providers to pursue such integration? How do you think these barriers could be addressed? | |

| |
|---|
| Where do you think there are untapped opportunities for integrating ECD into clinical care (added: HIV specifically)? What might be done to maximize these opportunities? |
| Integration is very important. If you had to focus in on one aspect of integration in terms of ECD and pediatric care (added: particularly in HIV settings), where would you focus and why? |
| Do you have any resources you can share concerning your work with ECD in HIV clinical care? |
| Do you have suggestions for other interviewees? (Probe for providers at the clinic level who might provide additional insight.) |
| Added: What additional barriers need to be addressed in order to enable care providers to pursue such integration? How do you think these barriers could be addressed? |
| Added: What could be done to encourage healthcare providers to integrate ECD into their pediatric care? What might be a single most critical addition in terms of integrating ECD? |
| Added: How is ECD incorporated/aligned to government policy/strategy in the countries where you operate or have experience? |
| Early Childhood Development Interventions |
| What HIV-specific interventions are within your program's ECD experience? What have been the activities? Outcomes? What are some of the key lessons learned? |
| What evidence does your program have to show its effectiveness? |
| How is the work of integrating ECD into clinical activities shared by the workforce? Who does it involve, and how do they find the time to do this work? How are they supported to do this work? How could they be better supported to do this work? |
| Do you have any resources you can share concerning your work with ECD in HIV clinical care? |
| USAID/PEPFAR Stakeholders |
| What might be some <u>key entry points</u> for ECD integration into PEPFAR programming, specifically? |
| What <u>specific ECD interventions</u> would you envision being introduced through those entry points? |
| What are some other exciting innovations you have seen with ECD specifically in PEPFAR programs? |
| If resources for introduction or piloting were limited, what would you prioritize within PEPFAR programs? |
| Thank you. |

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Coordinating Comprehensive Care for Children (4Children) is a five-year (2014-2019), USAID-funded project to improve health and well-being outcomes for Orphans and Vulnerable Children (OVC) affected by HIV and AIDS and other adversities. The project aims to assist OVC by building technical and organizational capacity, strengthening essential components of the social service system, and improving linkages with health and other sectors. The project is implemented through a consortium led by Catholic Relief Services (CRS) with partners IntraHealth International, Pact, Plan International USA, Maestral International, and Westat.

