



# Parents Make the Difference

Findings from a randomized impact evaluation of a parenting program in rural Liberia

International Rescue Committee | NOVEMBER 2014





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Photography by Mark Darrough.

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Parents Make the Difference

# Executive summary

An estimated 200 million children under the age of five in developing countries are not meeting their developmental potential due to exposure to multiple risks including poverty, lack of nurturing and responsive care, and poor health and nutrition. Among the many risk factors that negatively affect child development, harsh parenting and inadequate cognitive and social-emotional stimulation have been consistently associated with poor outcomes during childhood and across the entire life course.

The risks facing young children in low-income countries and the implications for poverty reduction and development indicate the urgent need for effective interventions in early childhood. Although evidence exists for effective interventions, most research and implementation has been concentrated in high- and middle-income countries, and investment in early childhood programming remains low in the poorest countries, where children face the great risks. Interventions targeted at improving parenting and caregiver-child relationships are one of the strategies with a robust evidence base, mostly concentrated in high-income countries. A small but growing body of research from low- and middle-income countries suggests that such interventions may be feasible and effective in low-resource settings as well, but more rigorous research is needed. Furthermore, very few studies have been conducted on parenting interventions in post-conflict settings.

This report presents findings from a parenting intervention that was implemented in post-conflict Liberia, where young children face many of the risk factors identified as detrimental to their development. In 2012–2013, the IRC implemented a parenting intervention, called Parents Make the Difference, in Lofa County, Liberia. The IRC collaborated with Duke University to undertake an impact evaluation of the program using a randomized controlled trial design. The evaluation assessed the impact of the program on the following outcomes: 1) caregivers' parenting practices; 2) children's cognitive, social, and emotional outcomes; and 3) malaria prevention behaviors. A total of 270 families participated in the impact evaluation. In addition, qualitative interviews were conducted with a subset of 30 caregivers in order to explore their experiences in the program.

## Results

**1. The intervention was feasible and acceptable in this low-resource, post-conflict setting.** Participant attendance was extremely high over the course of the program, with 98% of participants in the treatment group

attending or represented by their spouse at all 10 group sessions. Almost all participants reported being “very satisfied” with the program.

**2. The intervention significantly reduced the use of harsh physical and psychological punishment.**

Caregivers who participated in the program reported an average decrease of 56% in the use of harsh punishment. In particular, the percentage of caregivers who reported beating, whipping, or spanking their child in the last four weeks decreased by 64%, 62%, and 56% respectively. The use of psychological punishment (e.g., yelling) also decreased by 29%. When asked what they did the last time their children misbehaved, only 9% of caregivers in the treatment group reported beating their children compared to 45% in the control group.

Qualitative findings are consistent with the results above, with the majority of interviewed caregivers reporting a decrease in their use of harsh punishment. The most common response was that they were no longer beating their children or using other harsh forms of punishment such as shouting and denying food.

**3. The intervention significantly increased caregivers' use of positive behavior management practices and improved the quality of caregiver-child interactions.**

On average, caregivers in the treatment group significantly increased their use of positive behavior management strategies, particularly time out. Also, both children and caregivers reported significant increases in positive interactions (18% reported by children and 4% reported by caregivers). Analysis of observation data from brief, unstructured play between caregivers and children did not reveal differences in the quality of caregiver-child interactions, though this was measured by caregiver verbalizations only—between the treatment and control groups.

Qualitative findings suggest that some participants replaced harsh punishment with non-violent discipline strategies (e.g., time out) in response to new knowledge and skills that they had learned in the program. Participants also reported developing more positive relationships with their children, including spending more time talking and playing together. Caregiver responses suggested that this improvement in interactions with their children stemmed from their decrease in harsh parenting behaviors, which in turn resulted in children being less fearful of and more comfortable with their caregivers.

In addition, some participants reported increased recognition of their children's physical needs and tangible improvements in the ways they provided and cared for their children, as well as being more actively involved in their children's education.

- 4. The intervention did not have a significant impact on children's cognitive, emotional, or behavioral outcomes.** Children of caregivers in the treatment and control groups did not differ in their performance on tests measuring verbal or numeracy skills. There were no significant differences in children's communication skills or their social, emotional, and behavioral outcomes.

Qualitative findings suggest that some participants observed improvements in their children's academic motivation and achievement, and in their behavior and social and emotional wellbeing. Some participants described their children as more motivated to attend and achieve at school, more obedient and respectful, and better at social interactions with others.

- 5. The intervention did not have a significant impact on malaria prevention outcomes.** Reported ownership and use of mosquito nets was high at baseline and post intervention for both treatment and control groups. There was no significant increase in mosquito net ownership or use, or malaria prevention knowledge and behaviors among caregivers in the treatment group.

Qualitative findings suggest that some caregivers improved their own and their children's hygiene behaviors, and that some of these changes were specific to malaria prevention, such as the use of mosquito nets. Two caregivers also reported health-related changes, such as a decreased frequency of child illness and more prompt responses to children's health concerns.

- 6. Qualitative findings suggest that participants experienced unexpected positive changes in their families and communities.** Participants reported decreased marital conflict and improved communication and problem solving within the household. Although this was not a focus of the intervention, some respondents described how changes in their own and their spouse's behavior (e.g., substance use) resulted in improved relationships. Participants also reported sharing what they had learned in the program with others in the community. They described teaching others not to beat their children, promoting alternative forms of punishment, avoiding

fighting within the family, and encouraging others to send their children to school. Some also reported helping to counsel other families and serving as a role model in the community. These family- and community-level outcomes were not measured in the survey.

## Conclusions and Recommendations for Research, Policy, and Programming

- 1. Parenting interventions are feasible and can be delivered in resource-constrained, culturally diverse and post-conflict settings.**

Implementation of the Parents Make the Difference program in rural Liberia suggests that parenting interventions are feasible and can be delivered at a low cost even in post-conflict contexts characterized by very limited financial and human resources. The program was delivered by lay facilitators from Liberia and observations from program monitoring visits and fidelity monitoring tools suggest that facilitators were able to deliver the manualized intervention with fidelity. The feasibility of lay workers or paraprofessional staff delivering the intervention is particularly relevant in low-resource, post-conflict settings where local capacity is likely to be limited, and will allow implementation at scale.

High levels of participant attendance and satisfaction point to the acceptability of the parenting intervention among families in rural, post-conflict Liberia. Acceptability of the intervention may be due in part to the use of formative research to inform the cultural adaptation of program curriculum and materials. The experience of the Parents Make the Difference program has shown that surface adaptations to evidence-based intervention approaches used in other contexts are sufficient to address culturally-specific differences in parenting practices or norms. Such adaptations are most useful when based on qualitative research and pilot testing.

- 2. Brief parenting skills-building interventions can decrease caregivers' use of violence as a form of punishment.**

Contrary to the assumption that the use of physical and psychological punishment is socially and culturally entrenched, the study found that a short parenting intervention of 10 weeks was effective at changing how caregivers discipline their children. This is an important finding given that the majority of violence against young

## Executive summary (continued)

children occurs in the context of discipline. These findings suggest that targeted parenting interventions of short duration can be effective at changing discipline practices and, in particular, reducing the use of violence as a form of punishment, even in contexts where such forms of punishment are highly normative. Policies and programs should therefore shift from focusing only on awareness raising or “sensitization” activities to including skills building interventions that equip parents and caregivers with concrete techniques that they can use to manage their children’s behavior without using violence.

### 3. Further development and longer-term testing of the program is necessary to achieve and measure multiple caregiver and child outcomes beyond parenting behaviors.

The study did not find an impact on early childhood development outcomes such as cognitive and school readiness skills, and social and emotional wellbeing. It is possible that the post-test survey—administered only one month post intervention—did not allow for sufficient time for these outcomes to emerge. While parenting behavior and practices may be amenable to change within the short timeframe of the intervention, it may be that their impact on child outcomes takes a longer time to emerge. This is consistent with the theory of change for the Parents Make the Difference program, which hypothesizes improvement in children’s cognitive, emotional, and behavioral development and wellbeing as a longer-term outcome. Measurement of children’s cognitive, emotional, and behavioral outcomes is also a general challenge for the field of early childhood development, and more research is required to develop, adapt, and test the reliability and validity of early childhood development measures for culturally diverse populations.

Further refinement of the intervention design, curriculum, and materials related may also be necessary to strengthen caregivers’ competencies and skills to enhance child development. Additional content devoted to structured role play and practice, including activities with their children at home or in session, may help caregivers increase their comfort and skill with activities aimed at boosting their children’s development. Similarly, the intervention only included one session on malaria prevention, which may not have been sufficient to change their knowledge and behavior in the short-term especially when baseline rates of mosquito net usage were high. Whether parenting

interventions can be used to achieve multiple outcomes across various sectors (e.g., health, education, early childhood development, and violence prevention) or not remains an empirical question that requires further research.

### 4. More rigorous and longitudinal research along with cost analysis is necessary to strengthen the evidence base in low-resource, post-conflict settings.

Recommendations from recent reviews of parenting interventions, as well as findings from this study, demonstrate the need for increased rigor in research on parenting in low-resource settings. In particular, validation of cross-cultural measures, adaptation of observational methods for use with low-resource and culturally diverse populations, and follow up of at least 12 months post intervention to assess emergence or maintenance of longer-term outcomes such as the prevention of future problems related to child behavioral and emotional well-being are necessary. Further research is also required to understand the cost effectiveness of various intervention models and the scalability and sustainability of interventions when delivered using a public health and social service workforce model.

## Recommendations for the Government of Liberia

1. Incorporate parenting and family based skills–building approaches into national policy around child protection and early childhood development, drawing on the well-established evidence base on parenting interventions in high-income countries and the growing body of research from low- and middle-income countries.
2. Determine if the parenting intervention can be delivered sustainably and at scale in multiple districts and counties by piloting the delivery of the intervention through the existing government workforce (e.g., Social Welfare Officers) and a cadre of paraprofessional staff. Invest in building the capacity of line ministries and county and district department staff on the theory and principles underpinning parenting interventions. Build a cadre of professional and paraprofessional staff who are trained in the delivery of the intervention and provide ongoing mentoring and supervision. Ensure that delivery of the intervention through the government workforce is rigorously evaluated to determine if positive results are replicated.

## Recommendations for donors and policy makers

1. Advocate for and support policy and programming that support interventions with a strong evidence base, including shifting away from program activities that are not supported by rigorous evidence. Ensure that policies and programs involving raising awareness or “sensitization” activities also include skills-building interventions that equip parents and caregivers with concrete techniques that they can use to manage their children’s behavior without the use of violence.
2. Support the Government of Liberia to build the capacity of line ministries and county and district department staff on parenting and family-based interventions, including piloting and evaluating the delivery of the parenting intervention through the government workforce.
3. Based on evaluation findings, support scale-up of effective interventions using a public health and social service workforce model, including supporting the evaluation of intervention effectiveness when delivered by government ministries or other public institutions.
4. Advocate for and support evidence-based intervention design and rigorous evaluation of parenting interventions in other low-resource and post-conflict settings to assess if feasibility, acceptability, and effectiveness differ substantially by context. Fund multi-year programs that begin with qualitative research to adapt and contextualize the intervention for the specific setting and pilot testing to ensure feasibility and acceptability for the specific population, followed by rigorous evaluation through the use of experimental or quasi-experimental designs. Sufficient time and funding are required to achieve large sample sizes required for an efficacy or effectiveness trial and to undertake longitudinal data collection.

## Recommendations for practitioners and researchers

1. Develop resources for training, mentoring, and supervising the government workforce to deliver parenting interventions in Liberia. Support the Government of Liberia to identify and address institutional barriers to incorporating parenting and family-based approaches into national policy and to delivering the intervention with fidelity. Collaborate with the government to design and conduct rigorous monitoring and evaluation of pilot

programs delivered through the government workforce, prior to scale-up if results are positive.

2. Engage in adaptation, implementation, and evaluation of skills-based parenting interventions in a variety of low-resource and conflict-affected settings. In new settings, begin with qualitative research and pilot testing of intervention materials to maximize cultural relevance and acceptability, which can lead to full-scale implementation and impact evaluation to generate evidence about effectiveness across contexts.
3. Further develop, refine, and test theories of change for multi-sector interventions aimed at achieving multiple caregiver and child outcomes around violence prevention, early childhood development, education, and health. Ensure that the theory of change articulates hypothesized pathways of immediate and long-term knowledge and skills acquisition, changes in attitudes and beliefs, and behavior change, which can then be tested through qualitative and quantitative methods.
4. Increase the rigor of research on parenting interventions in low-resource settings by using experimental or quasi-experimental study designs, conducting longer-term follow up of study participants and improving cross-cultural measurement. Validate caregiver and child outcome measures with the goal of being culturally and contextually grounded while keeping in mind the value of using instruments that can be used in multiple contexts for comparison. Adapt direct observation methods for use in low-resource, culturally diverse settings.
5. Design and conduct research to determine the core components of parenting interventions that are consistently associated with the largest effects on parenting and child outcomes. Use findings to inform the investment of resources in these components or strategies in order to achieve the largest impact for the greatest number of children and families. ■

# Introduction

An estimated 200 million children under the age of five in developing countries are not meeting their developmental potential due to exposure to multiple risks, including poverty, lack of nurturing and responsive care, and poor health and nutrition. The cumulative effects of such risks on children's development have been shown to be wide-ranging and long-lasting: these include poorer cognitive functioning and educational achievement, compromised physical and emotional health, and reduced earning potential in adulthood, thereby contributing to the intergenerational transmission of poverty (Grantham-McGregor et al. 2007).

Among the many risk factors that negatively affect child development, harsh parenting and inadequate cognitive and social-emotional stimulation have been consistently associated with poor outcomes during childhood and across the entire life course (Walker et al. 2007). Child abuse has been associated with a range of emotional and behavioral outcomes, including depression, anxiety, aggression, and anti-social behavior (Gershoff 2002; Butchart et al. 2006). These outcomes have been shown to persist into adolescence and adulthood; those who have experienced abuse in childhood are also more likely to become perpetrators and victims of other forms of violence later in life (Bender et al. 2007; Fang & Corso 2007). Several studies have documented the highest prevalence of child abuse in developing countries in Africa (Akmatov 2011; Barth et al. 2013; Stoltenborgh et al. 2011). Results from a study comparing different forms of child abuse across 28 countries found prevalence of abuse for children in the African region to be 83% for psychological abuse, 64% for moderate physical abuse, and 43% for severe physical abuse (Akmatov 2011). The same study found that parental attitudes towards corporal punishment had the strongest association with all forms of child abuse, and that the risk of child abuse was higher for children in poorer and larger households. While exposure to violence has multiple documented effects on children's wellbeing, studies have shown that even a lack of cognitive and social-emotional stimulation in early childhood can negatively affect young children's physical and intellectual development (Richter 2004).

The risks facing young children in low-income countries and the implications for poverty reduction and development indicate an urgent need for effective interventions in early childhood. Although evidence exists for effective interventions, most research and implementation have been concentrated in high- and middle-income countries, and investment in early childhood programming remains low in the poorest countries, where children face the greatest risks (Engle et al. 2007).

Interventions targeted at improving parenting and caregiver-child relationships are one of the strategies with a robust evidence base. Parenting interventions are grounded in behavioral theory and are highly skills-based, providing caregivers with concrete techniques to increase the frequency of cognitive stimulation and nurturing caregiver-child interactions to promote positive developmental outcomes. Such interventions have been shown to reduce abusive parenting and neglect, as well as increase positive caregiver-child interaction (Chaffin et al. 2010; Prinz et al. 2009). They have also been shown to improve a wider range of caregiver and child outcomes, including child aggression and conduct disorder, child depression and anxiety symptoms, and parenting stress (Eyberg, Nelson & Boggs 2008; Barlow et al. 2012). Most of the research on the effectiveness of parenting interventions comes from developed countries. However, a small but growing body of research supports the use of such interventions with a range of socioeconomic, racial and ethnic groups across different settings, including in low- and middle-income countries such as Iran, Pakistan, and Ethiopia (Knerr, Gardner & Cluver 2013; Mejia, Calam & Sanders 2012). Few studies have been conducted on the effectiveness of parenting interventions in post-conflict or conflict-affected contexts. Exceptions include the International Rescue Committee's study in Burundi, which found a significant decrease in the use of harsh punishment among participants who received parenting skills training in addition to an economic intervention (Annan et al. 2013), and Jordans et al.'s (2012) pilot study of a parenting intervention, also in Burundi, which found reduced conduct problems among boys.

This report presents findings from a parenting intervention that was implemented in post-conflict Liberia, where young children face many of the risk factors identified as detrimental to their development. Liberia is one of the poorest countries in the world, ranking 174th in the Human Development Index in 2013. Recovering from more than a decade of civil war, Liberia has made great strides in reducing child mortality and increasing primary school enrollment. However, approximately one in 10 children dies before the age of five and 32% of children under five years of age are stunted or short for their age (LISGIS 2013). Malaria continues to be one of the leading causes of morbidity and mortality among children, affecting 55% of those aged 6 months to 5 years (NMCP 2012). Available data from Liberia also suggest that children are at high risk of experiencing abuse, particularly in the context of discipline. According to available Demographic and Health Survey results from 2007, 76% of children aged 2 to 14 years

received physical punishment such as spanking, hitting with a hard object, or slapping in the previous month. Psychological punishment was reported as even more prevalent: 83% of children were subjected to yelling or name-calling. Non-violent forms of discipline, such as the removal of privileges, were extremely uncommon and used with only one in 20 children. The use of physical punishment is highly normalized among parents and caregivers in Liberia: according to the same survey, six out of ten households believe that children need to be physically punished in order to be raised properly (LISGIS 2008).

In Liberia, several government ministries including the Ministry of Health and Social Welfare and the Ministry of Gender and Development have the mandate for policy and service delivery for child protection and development. However, county-level departments are too understaffed and underfunded to meet the vast needs of this mandate (Save the Children 2011). Although international and national non-governmental agencies have been providing child protection, education, and health services since the war, none have implemented programs to improve parenting practices with the goal of reducing child maltreatment and promoting developmental outcomes. Given the strong evidence base on parenting interventions from high-income countries, and the limited but promising research from developing countries, there is an urgent need to investigate the feasibility, acceptability, and effectiveness of parenting interventions to address multiple risk factors and promote positive developmental outcomes among young children in Liberia.

Key policy questions include:

- Are parenting programs feasible and acceptable in low-income, post-conflict and culturally diverse settings such as Liberia?
- Can parenting programs achieve multiple caregiver and child-level outcomes, including positive parenting practices, improved cognitive, emotional and behavioral outcomes for children, and malaria prevention?
- How cost effective are parenting programs and what are the implications for scalability in low-resource settings?

This report presents findings from a randomized evaluation of a pioneering parenting program called **Parents Make the Difference**, which aimed to reduce harsh punishment, increase positive parenting, improve malaria prevention behavior, and improve the cognitive, emotional, and behavioral outcomes of children aged 3 to 7 in Liberia. The program

was implemented in Liberia by the International Rescue Committee (IRC). The IRC is an international humanitarian and development agency that has been in Liberia since 1996 providing a range of services including health, child protection, education, business skills training, and gender-based violence prevention and response. The IRC is investing globally in programming and research on parenting interventions in low-resource and humanitarian settings: in addition to the program in Liberia, the IRC has evaluated the impact of parenting programs in Burundi (Annan et al. 2013) and along the Thailand–Burma border, and is implementing similar programs in other conflict and displacement-affected settings such as Syria, Uganda, and Tanzania.

The IRC collaborated with Duke University to undertake an impact evaluation of the Parents Make the Difference Program in Liberia using a randomized controlled trial design. Our goal is that lessons generated from this program will not only influence early childhood development and child protection policy and programming in Liberia, but also contribute to the wider evidence base on parenting interventions in low-income and post-conflict settings. ■



# Parents Make the Difference Program

Effective parenting interventions share core components that guided the development of the Parents Make the Difference (PMD) program (Bavolek 2000; Sanders et al. 2002; Webster-Stratton & Reid 2010). They are grounded in behavioral theory and are highly skills-based, providing participants with concrete techniques to increase the frequency of positive caregiver–child interactions and to employ positive discipline strategies. They also have structured curricula that provide opportunities for discussion and sharing among participants in addition to skills practice. Intervention strategies often draw from social learning theory, which emphasizes the importance of learning new skills by observing and then doing.

The IRC and Duke University reviewed existing evidence-based parenting interventions and conducted research in target communities to develop the curriculum for the PMD program. Formative research, including focus group discussions with caregivers, participatory activities with children, and key informant interviews with community leaders and service providers, was conducted in 2012 to inform the adaptation of intervention strategies to the specific cultural context and needs of families in rural Liberia. Consistent with previous research on cultural adaptation (Lau 2006), findings from the formative research suggested that the core strategies of parenting programs would apply in this context and would be enhanced by adaptations to improve relevance and acceptability. These adaptations included eliminating strategies requiring higher-level literacy skills, incorporating locally relevant parenting scenarios, and using examples or metaphors based on the local culture. In order to address the multiple needs of children and their caregivers, additional content on cognitive stimulation and malaria prevention was also added to the curriculum by IRC technical experts and reviewed by Duke University psychologists.

The PMD program consisted of 10 weekly group sessions and an individual home visit. Each two-hour weekly group session was facilitated by two Liberian staff from the IRC, who were trained on and had experience with the content and delivery of the program. Group sessions were designed to be highly interactive, with a strong emphasis on discussion, modeling, and in-session practice of skills. The program was unique in its adaptation of evidence-based parenting strategies for a low-resource, post conflict setting, as well as for its multi-sector approach, including sessions on positive parenting, cognitive development, and malaria prevention.

Content on positive parenting included: negative effects of physical and psychological punishment; use of non-violent discipline techniques; and positive interaction and communication such as the use of praise with young children. Caregivers were also taught strategies for stimulating children's cognitive development, including communication and activities to promote children's numeracy, vocabulary, and critical thinking skills. Caregivers learned the basics of child development and the importance of active involvement in their children's education, even if the caregivers themselves were illiterate or had not received formal schooling. The program also included one session on malaria prevention, which provided information about malaria causes, symptoms, and prevention, specifically the use of bed nets, and prompt care seeking and treatment.

Facilitators conducted a home visit to each participating caregiver to provide individualized support, primarily discussing the previous sessions with the caregiver and providing general encouragement. In addition, participants created Parent Support Groups as a forum for caregivers to discuss what they had learned, share questions and concerns, and catch up on any sessions they may have missed.

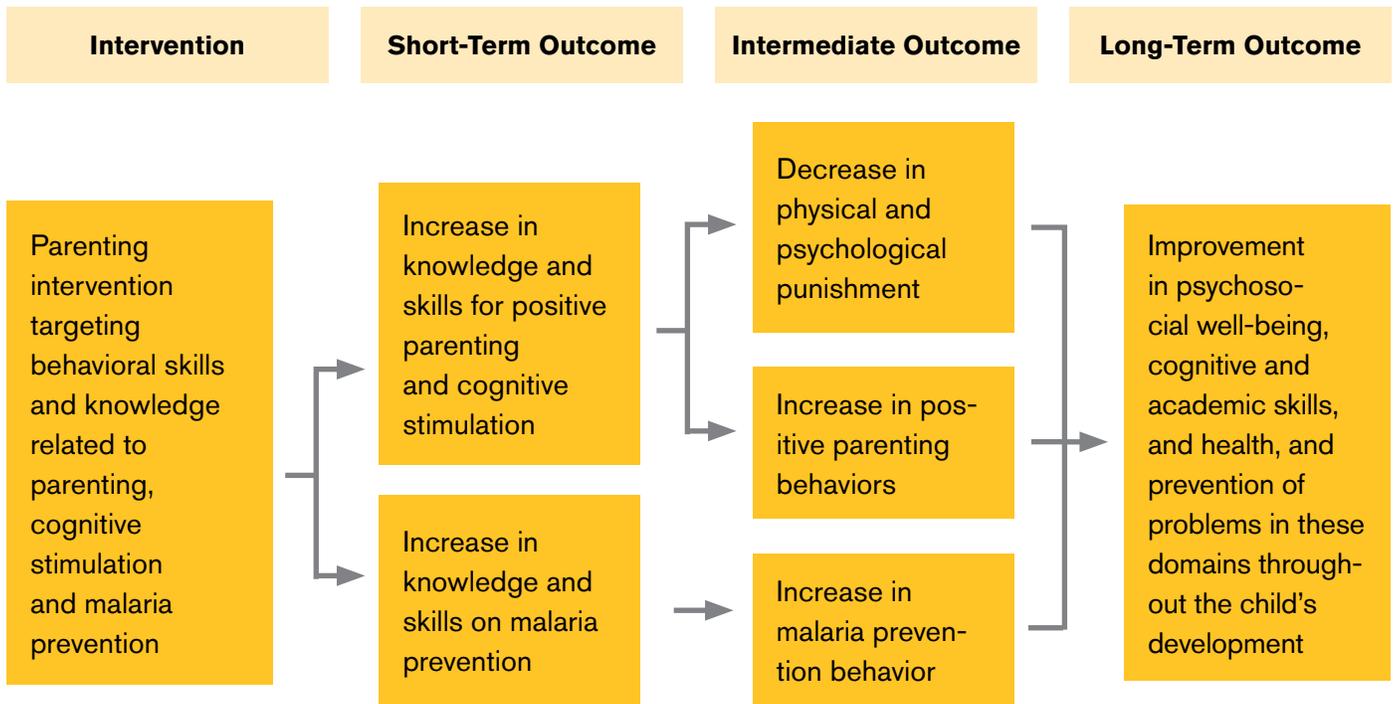
Participant attendance and satisfaction were monitored using attendance logs and brief satisfaction surveys conducted midway through the program. In addition, intervention fidelity (i.e., facilitators' adherence to program delivery and curriculum) was monitored by IRC technical and program staff to identify areas for improvement and provide additional training and support for facilitators where necessary.

## Theory of Change

The Theory of Change underlying the Parents Make the Difference Program hypothesized that an integrated, multi-sector parenting training intervention targeting behavioral skills and knowledge for positive parenting, cognitive stimulation, and malaria prevention would result in caregivers' increased skills and knowledge in these domains. The IRC and Duke University hypothesized that increased skills-based knowledge and practice would result in intermediate effects on caregivers' behaviors—that is, decrease in the use of physical and psychological punishment; increase in the use of positive parenting strategies; and increase in malaria prevention behavior. These intermediate outcomes would ultimately result in the longer-term outcome of improved psychosocial well-being, cognitive and academic abilities, and physical health of children, as well as prevention of problems in these domains in the future. ■

OPPOSITE PAGE: Children in a cooking area in Voinjama, Liberia.

**Figure 1.** Theory of Change



# Impact Evaluation

## Research questions

The IRC and Duke University conducted an impact evaluation of the Parents Make the Difference program to answer the following questions:

1. Does the parenting program decrease the use of harsh punishment and increase positive parenting practices?
2. Does the parenting program have an impact on children's cognitive, emotional, and behavioral outcomes?
3. Does the parenting program have an impact on malaria prevention knowledge and behaviors?

The study aimed to test the following hypotheses:

1. Participants in the treatment group will report a decrease in harsh punishment compared to participants in the control group;
2. Participants in the treatment group will report an increase in positive parenting practices compared to participants in the control group;
3. Participants in the treatment group will report improvement in children's cognitive, emotional, and behavioral outcomes compared to participants in the control group.
4. Participants in the treatment group will report improvement in malaria prevention knowledge and behavior compared to participants in the control group.

## Study design and methodology

The program was evaluated using a randomized waitlist controlled trial design with quantitative, qualitative, and observation assessment methods. Participants were randomly assigned to a treatment group that received the intervention during the first round of implementation, or to a waitlist control group that received the intervention during a second round of implementation. In total, 135 families were randomly assigned to the treatment group, and 135 families to the control group by lottery, stratified by community.

Informed consent was obtained from the caregiver and the child prior to data collection. In the event that cases of child abuse or other risk of harm emerged through the course of the study, the IRC developed protocols for response and referral. All study procedures were approved by the Duke University Institutional Review Board, as well as a community-based advisory committee established by the IRC in Lofa County for the purpose of this study.

Baseline survey data were collected from all participants prior to randomization. In addition to the enrolled caregiver, one child from each family was randomly selected to participate in the study. Assessments were conducted in Liberian English and data were collected electronically using Android phones. The survey for caregivers included questions related to parenting attitudes and beliefs; parenting behaviors including use of violent and non-violent discipline and positive interactions with the child; children's behavior and emotional wellbeing; and malaria prevention knowledge and behavior. In addition, children participated in activities testing their cognitive and pre-academic skills related to verbal and numeracy abilities. The survey was repeated with participants in the treatment and control groups one month after the treatment group completed the program.

The post-test survey responses from the treatment and control groups were compared to examine if there were statistically significant differences on outcomes of interest. An "intention-to-treat" analysis was conducted, meaning that all participants who enrolled in the study were included in the analysis, even if they were assigned to the treatment group but did not attend any of the program sessions. Estimates of treatment effects are generally more conservative but also less biased using this approach.

In addition to the survey, an observational assessment was conducted of each caregiver and child pair consisting of a brief, unstructured play activity that was audio-recorded and transcribed verbatim. The transcripts were coded at Duke University for specific types of caregiver verbalizations (e.g., praise, negative statements) using the Dyadic Parent-Child Interaction Coding System, 3<sup>rd</sup> Edition (Eyberg et al. 2005), with the goal of providing an objective measure of parenting style and caregiver-child interaction. The specific types of verbalizations from caregivers in the treatment and control groups were compared to the verbalizations at post-test to determine if there were significant group differences as a result of the intervention.

As part of the post-test survey, children of caregivers in both the treatment and control groups were asked four survey questions about positive interactions with their caregiver, including time spent together, time spent playing and talking together, and frequency of receiving praise. Children also answered open-ended questions about their caregivers' parenting behaviors. Children's responses to these open-ended questions were coded and categorized, and the frequency of each response category was analyzed. In addition, a purposive

sample of 30 caregivers participated in semi-structured interviews upon completion of the intervention.

The interviews included open-ended questions about perceived changes in themselves, their children, family, and relations with the broader community—both positive and negative—due to the intervention. Interviews were audio recorded, transcribed verbatim, and analyzed in the qualitative analysis software Dedoose using thematic content analysis. ■

**Table 1. Measures**

<b>Construct</b>	<b>Measure</b>	<b>Author, Year</b>	<b>Format</b>
Parenting practices	Parental Acceptance and Rejection Questionnaire (PARQ)	Ronald Rohner, 1980	Administered to parents/caregivers; report frequency of behaviors in the last 4 weeks on 4-point Likert scale
Discipline techniques	Discipline module of Multiple Indicator Cluster Survey (MICS)	UNICEF, 2005	Administered to parents/caregivers; report frequency of use in the last 4 weeks on 5-point Likert scale
Parenting beliefs	Adult-Adolescent Parenting Inventory (AAPI-2)	Stephen Bavolek & Richard Keene, 1979	Administered to parents/caregivers; report agreement with belief statements on 4-point Likert scale
Child social and emotional wellbeing	Strengths and Difficulties Questionnaire (SDQ)	Robert Goodman, 2005	Administered to parents/caregivers and children; report of child behavior on 3-point Likert scale (“not true,” “sometimes true,” and “very true”)
Quality of parent–child interaction	Dyadic Parent-Child Interaction Coding System (DPICS)	Sheila Eyberg, Melanie Nelson, Maura Dukes, & Stephen Boggs, 2005	Audio recording of 5-minute unstructured play between parent/ caregiver and child
Child cognitive skills	Listening comprehension; counting; grouping; vocabulary	Developed for this study; similar to various standardized measures of cognitive and academic abilities	Series of game-like activities conducted with children

# Target Population

The IRC implemented the Parents Make the Difference Program in Lofa County from July 2012 to April 2013. Lofa is located in a remote, northernmost part of Liberia and has a primarily agriculture-based economy. Lofa was the scene of intense fighting and widespread displacement during the civil war. The IRC has been working in Lofa since 2002 providing a range of services, including health care, education, child protection, and gender-based violence prevention and response.

The IRC selected five communities in Lofa in which to implement the program. Criteria for community selection included: accessibility from the county capital of Voinjama, where the IRC office is located; existing relationships with local authorities, community leaders, and schools; and the number of children aged 3 to 7 years. IRC staff conducted information sessions in the schools in selected communities and parents or other caregivers who were interested in the program were invited to enroll. Criteria for inclusion were: being 18 years of age or above; being a caregiver to a child between the ages of 3 to 7 years entering kindergarten; and being able to provide informed consent. In each community, 50 to 70 families were recruited and enrolled into the program for a total of 270 families across five communities. If there was more than one child aged 3 to 7 years in the family, one was randomly selected to participate in the study.

## Caregiver Characteristics

<b>Gender</b>	57% female
<b>Average age</b>	36 years
<b>Marital status</b>	90% married or in relationship
<b>Education</b>	30% with no formal education
<b>Livelihood</b>	Farming
<b>Average household income</b>	US\$41 (last 4 weeks)

## Demographic characteristics

The average age of participating caregivers was 36 years. Over half (57%) were female and the vast majority (90%) reported being married, living with a partner, or being in a relationship. The predominant religion and tribe of participating caregivers were Christian (68%) and Lorma (69%), and 30% reported having no formal education.



## Target Population (continued)

The majority of participating caregivers (73%) reported being engaged in some form of income generation, primarily agriculture, and worked 23 hours in a typical week on average. In the previous four weeks, participants reported a combined household income of 2,838 Liberian Dollars (US\$41) on average. In terms of asset ownership, 70% of caregivers owned their home and almost half owned land. Approximately 40% owned phones or radios; however, only 12% owned a means of transportation such as a bicycle, motorbike, or automobile.

The average household size was 7, with 4 dependent children under the age of 18 and 2 dependent children between the ages of 3 and 7. The vast majority (83%) of participating caregivers were biological parents to the child in the study, with 45% mothers and 39% fathers. Almost all had cared for the child since birth. The average age of the child was 5 years and just over half (53%) were female.

## Baseline parenting characteristics

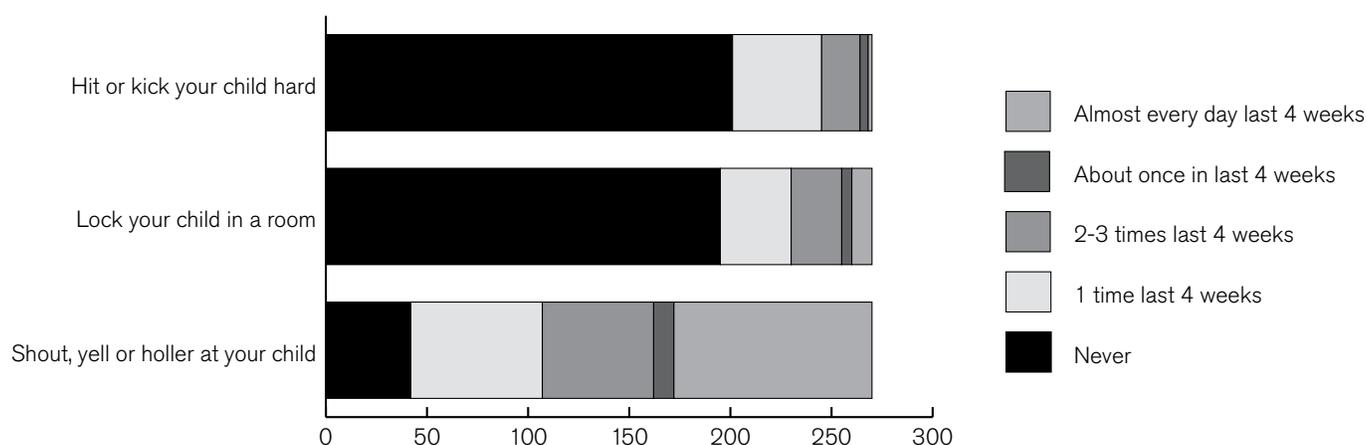
Caregiver participants reported a mixed picture of positive and negative parenting behaviors at baseline. As Figure 2 shows, harsh verbal punishment was commonly used, with 36% of caregivers reporting shouting at their child every day. Severe forms of physical punishment such as hitting, kicking, or locking the child in a room were rarely reported.

However, when asked what they did the *last time their child misbehaved*, more than half (53%) of the participants reported beating their child. Harsh verbal punishment was commonly used, with 21% of caregivers reporting shouting or yelling at

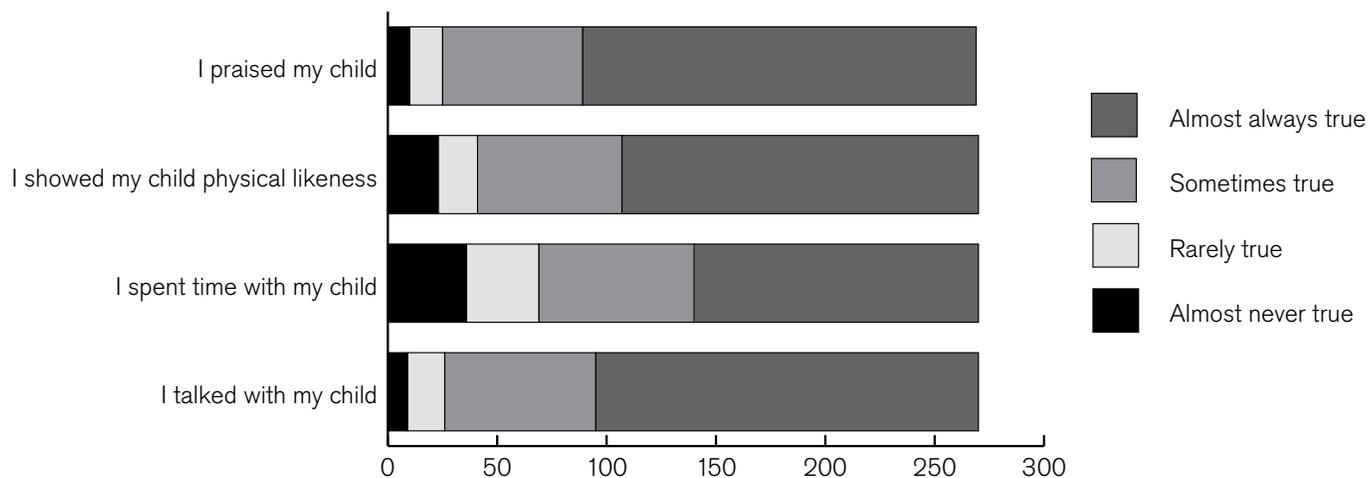
their child the last time he or she misbehaved. Other harsh forms of punishment such as slapping the child, denying the child food, and locking the child out of the house were rare. The most commonly used non-violent discipline technique was “asking the child to stop,” which was reported by 48% of participants. However, other non-violent discipline techniques such as distracting the child, putting the child in “time out,” and removing privileges were very infrequently reported.

When asked about their attitude towards the use of physical punishment, only 8% of caregivers agreed that it was necessary to physically punish their child in order to raise them well. When asked a similar question about whether punishment (e.g., beating, locking the child up) is sometimes the only effective form of discipline, only 19% of caregivers agreed. This discrepancy between the caregivers’ reported attitude towards physical punishment and their reported use of physical punishment warrants attention in future studies keeping in mind potential shortcomings of the survey questions themselves.

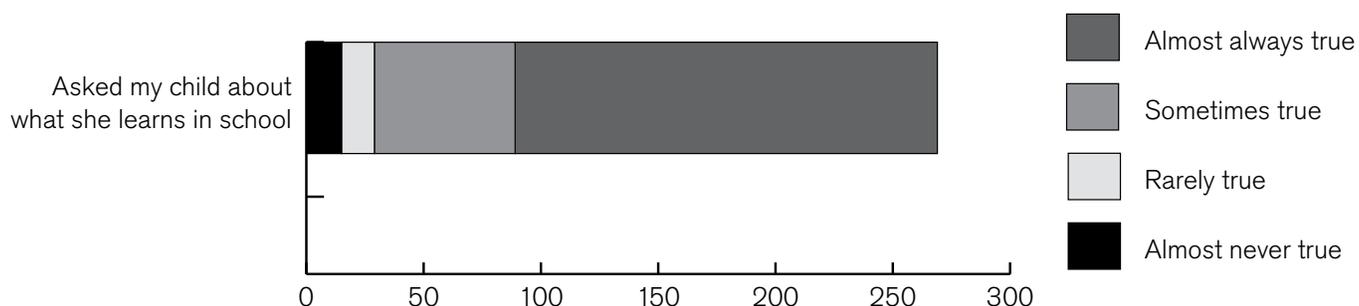
Caregivers reported frequent use of positive parenting behaviors at baseline. In particular, caregivers reported frequent use of praise and physical affection in the four weeks prior to the assessment (known as “physical likeness” in the Liberian English vernacular), with 67% choosing the highest frequency rating (“almost always”) for praising their child for good behavior and 61% for showing physical affection to their child. The majority of caregivers also reported doing enjoyable activities with their child and talking with their child, suggesting generally positive parent–child interactions as reported at baseline. Attitudes



**Figure 2.** Frequency of caregiver-reported harsh physical and verbal punishment at baseline



**Figure 3.** Frequency of caregiver-reported positive parenting behaviors at baseline



**Figure 4.** Frequency of caregiver-reported school involvement at baseline

towards positive parenting strategies such as praise and rewards were mixed. For example, although almost all caregivers (93%) agreed that children who received praise would become arrogant, 89% of caregivers also agreed that rewarding a child was an effective way to teach good behavior.

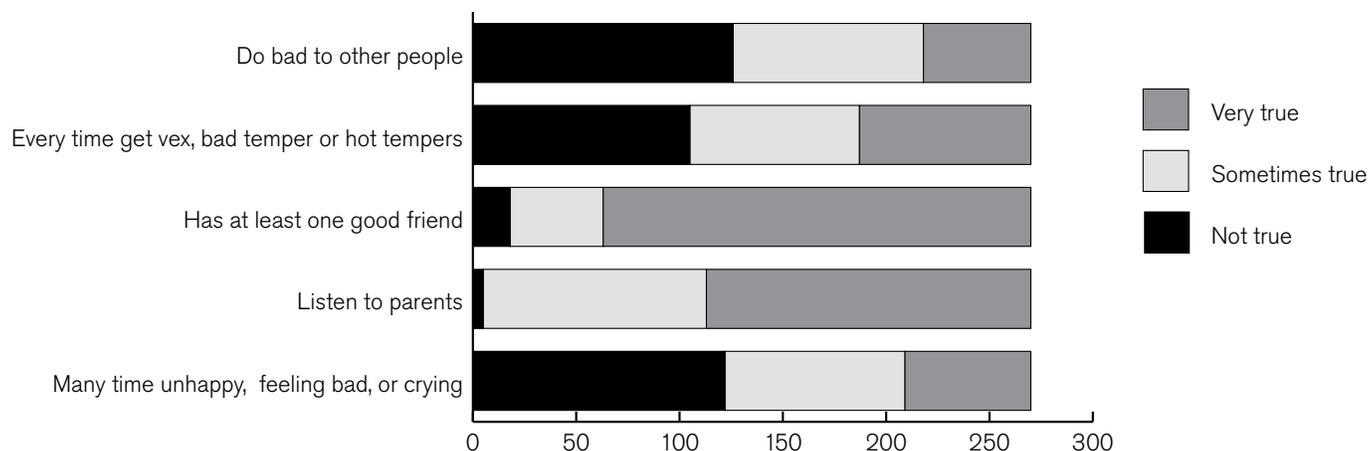
Caregivers also reported a mixed level of involvement in their children's education. Although the majority of respondents reported frequently asking their children about school (see Figure 4), only about half (53%) had attended the most recent Parent-Teacher Association meeting at their children's school. Although 84% of caregivers felt that they could talk to their child's teacher about school-related problems, almost half (45%) felt that parents who were illiterate could not help their children to achieve academically. This is significant, as one third of caregiver participants had not received any formal education. In general, caregivers' sense of parental self-

efficacy was high, with 88% reporting that they were "doing a good job in bringing up my child well."

### Baseline child characteristics

Children aged 3 to 7 of the participating caregivers were administered a series of tasks to assess their cognitive and school readiness skills. These tasks included: counting and grouping objects to test numeracy skills; answering simple questions to test listening comprehension and logic; and naming types of food and animals to test vocabulary.

On average, children could count to 13. When asked to place pebbles into groups of two, children made, on average 4 groups out of a possible 5 groups. When asked to arrange the pebbles in a specified pattern, only 19% of children could complete the pattern correctly. Less than half of the children



**Figure 5.** Caregiver assessment of child social and emotional wellbeing

were able to answer simple questions such as “what do you do when you are tired?” Only about half of the children were able to participate in the naming task asking them to name as many foods or animals as they could in one minute. Results suggested generally poor performance on these tasks, though it should be noted that norms for these items do not exist for this population, and enumerators did not have extensive training in the administration of these tasks.

Caregivers and their children were also asked to rate the child’s social and emotional well-being. Figure 5 shows that most caregivers rated their child as obedient and as having at least one friend, but approximately half reported that it was “sometimes true” or “very true” that their child had emotional or behavioral difficulties.

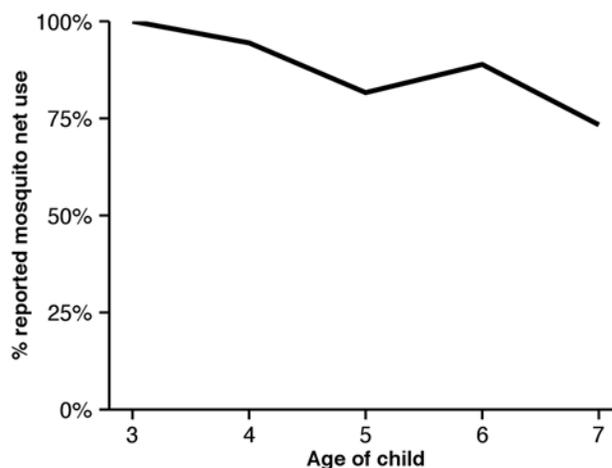
Children’s responses were consistent with that of their caregivers, with the majority of children (82%) reporting that they have a good friend, but over half (53%) reporting that they often feel bad.

### Baseline malaria prevention characteristics

Finally, caregivers responded to several questions related to malaria prevention. In general, there was high ownership and use of mosquito nets in the study sample compared to the general population: of the 270 households in the study, the majority (71%) owned a mosquito net and reported that the child had slept under the mosquito net the night before (88%). By contrast, data from a previous assessment showed that only 48% of households in all of rural Liberia owned at least one mosquito net and only 35% of children under the age of five slept under a mosquito net the night before (NMCP 2012). Coordinated distribution of mosquito nets between the

Lofa County Health Team and non-governmental agencies, as well as the integration of malaria prevention education into other health services, may account for the high mosquito net ownership and use in the study sample.

However, baseline results also found that reported use of the mosquito nets was inconsistent, particularly for the older children in the sample. While 100% of 3-year-olds were reported as having slept under the mosquito net the night before, only 75% of 7-year-olds were reported as having done so (see Figure 6). Incorrect mosquito net usage was also reported, with 43% of caregivers reporting that they put the net down *after* the child had already fallen asleep. ■



**Figure 6.** Caregiver-reported mosquito net use by age of child

# Results

## 1. Feasibility and acceptability of the intervention

Participant attendance across all sites was extremely high: in the treatment group, **98% of participants attended or were represented by their partner at all 10 group sessions**. There were no significant differences in rates of attendance across sites. Such consistently high rates of attendance suggest that the program was accepted and well liked by participants. This is supported by monitoring data collected from 135 participants in the treatment group midway through the program: **almost all (98%) reported being “very satisfied” with the program**.

Qualitative interviews with a subsample of caregivers who completed the program suggest that the program facilitators were knowledgeable, well liked and respected. Program facilitators completed self-assessments of their adherence to the program model and curriculum, which suggested they were able to deliver the intervention with fidelity; potential bias in this

““ We all came to learn for our children to have a better future where we will be trained on how to take care of our children and to make sure to educate our children. ””

—30-YEAR-OLD FATHER

self-report should be recognized, however, and more objective measures should be considered for future studies.

Qualitative data also found that the desire to better care for their children, develop harmonious family relationships, and gain new knowledge for the future were among the main motivators for caregivers' participation. Although 40% of interview respondents reported that the small financial incentive (US\$1.50 per session) encouraged regular attendance, all stated that they would have participated without it. This should be evaluated in future implementation of the program. Respondents also cited close proximity of intervention sessions to their home and the ability of

BELOW: A father and son in Voinjama, Liberia.



## Results (continued)

participants to decide on the day and time of sessions as facilitators of attendance.

### 2. Impact on harsh punishment

The program had a significant impact on caregivers' use of physical and psychological punishment. Caregivers who received the intervention reported an **average decrease of 56% in the use of physical and psychological punishment** (effect size  $-0.61$ ;  $p < 0.001$ ), compared to those who had not yet participated in the program. In particular, the percentage of caregivers who reported beating, whipping, and spanking their child in the last four weeks decreased by 64% (effect size  $-0.67$ ;  $p < 0.001$ ), 62% (effect size  $-0.62$ ;  $p < 0.001$ ), and 56% (effect size  $-0.42$ ;  $p < 0.001$ ) respectively. The use of psychological punishment such as yelling at the child also decreased by 29% (effect size  $-0.65$ ;  $p < 0.001$ ). When asked what they did the last time their child misbehaved, only 9% of caregivers in the treatment group reported beating their child compared to 45% in the control group.

“They show us the picture of how the child brain will be if we don't take good care of the child. But when you like the person [child] and holding the child good, their brain can be developing. Like if you plant a flower and water it every time, the flower will grow good. But if you don't water the flower, it will be going down until it dies, and that is the same way the children are.”

—51-YEAR-OLD MOTHER

Qualitative interviews with a subsample of caregivers corroborated the quantitative results on decreased harsh punishment. The most common response from caregivers was that they were no longer beating their children; many also mentioned that they were no longer using other forms of harsh discipline, such as shouting and denying their child food. Caregivers described replacing harsh punishment with non-violent discipline strategies such as “advising” their child and putting their child in “time out,” a technique that was taught during the intervention.

Respondents cited several reasons for decreasing or ceasing their use of harsh punishment in favor of non-violent discipline strategies. Some reported recognizing that beating was not effective at improving their child's behavior beyond the

immediate moment, while others expressed concern that harsh punishment could compromise their child's development. Some caregivers also described becoming better at regulating negative emotions and not taking out their anger on their child. As a 48-year-old mother explained: “When my children used to come near me ... I yell at them because I was vex due to my suffering from farm work to survive. When the children tried to say anything, I yell at them. I'm not doing that again.”

### 3. Impact on positive parenting practices and caregiver–child interaction

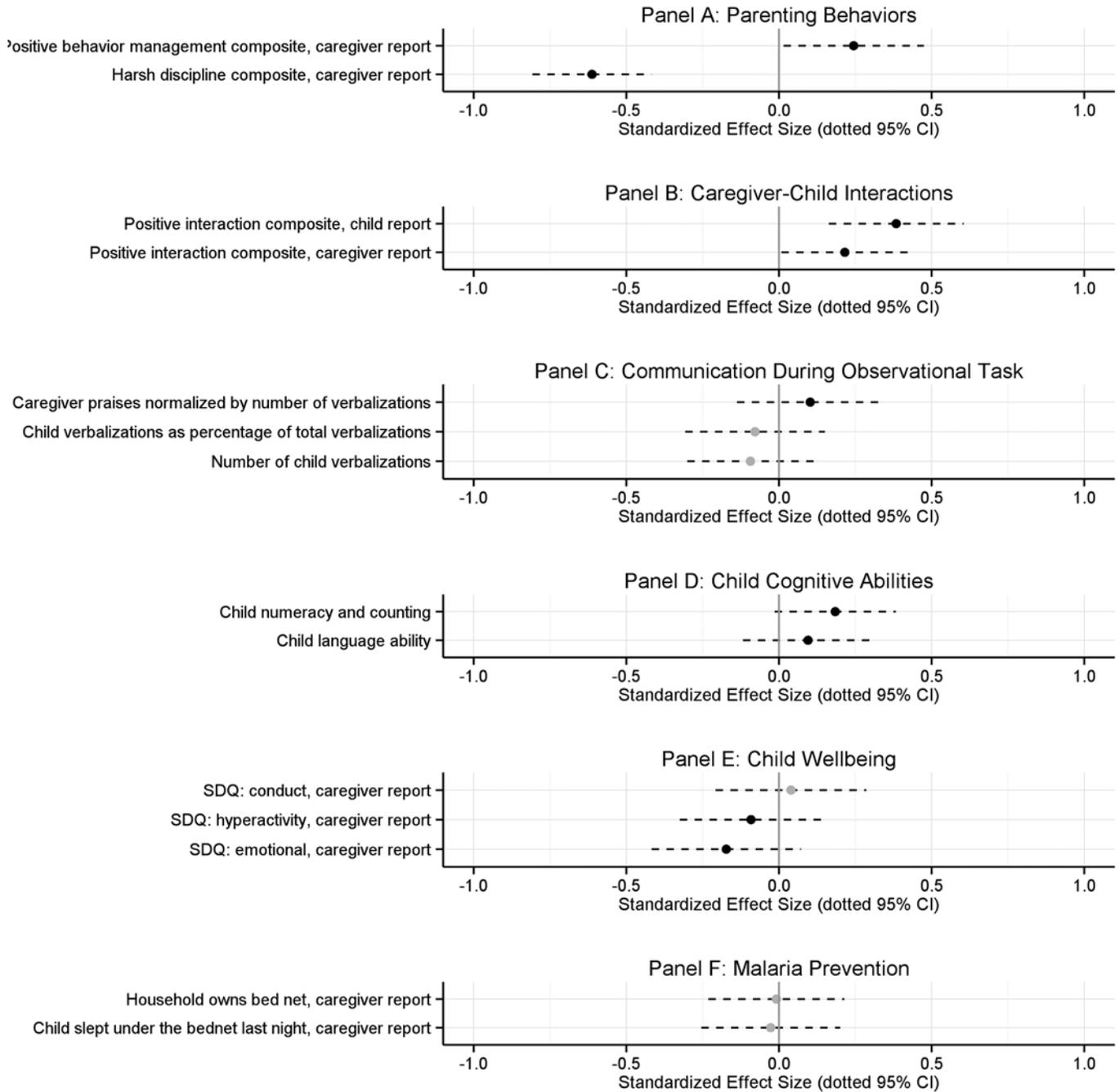
**The program had a significant impact on caregiver–child interactions and caregivers' use of positive behavior management strategies.**

In addition to decreasing caregivers' use of harsh punishment, the program also significantly increased positive interactions between caregivers and children. The average caregiver in the treatment group reported a 4% increase in positive interactions with their child (0.34 points on a scale of 1–10; effect size 0.22), while the average child of a caregiver assigned to the treatment group reported a 18% increase in positive interactions with their caregiver (0.32 points on a scale of 0–3; effect size 0.38). A 5-year-old girl described the positive interactions with her caregiver: “We can be singing, talking story, praying to God, and teaching me ABC.”

On average, caregivers in the treatment group also reported a small increase in the use of positive behavior management strategies. This small effect appears to be driven by a significant increase in reported use of the “time out” technique.

There was no evidence of impact on caregivers' beliefs about praising or rewarding children's good behavior, or on caregivers' sense of parenting self-efficacy, meaning how much they felt they were able to manage their child's behavior.

In addition to self-reported measures, the study piloted the use of an observational assessment—the Dyadic Parent–Child Interaction Coding System (Eyberg, Nelson, Dukes, & Boggs, 2005)—in order to provide a more objective measure of some of the characteristics of caregiver–child interactions to complement the self-reported data. The assessment consisted of asking caregivers to play with their children for five minutes, with the option to use simple materials such as pebbles and pencil and paper. The assessor audio-recorded the interaction, which was then transcribed verbatim for coding and analysis. Caregiver verbalizations during the interaction were coded for expressions of warmth, responsiveness, and control.



**Figure 7. Standardized intention-to-treat results for caregiver and child outcomes**

Figure 7 displays standardized results of intention-to-treat (ITT) ordinary least squares (OLS) regressions of each outcome on an indicator of assignment to treatment, stratum fixed effects, and baseline covariates. The point estimates were standardized by dividing the coefficient on assignment by the control group standard deviation (Glass's Delta). Black dots represent point estimates in the hypothesized direction (grey if not in the hypothesized direction). Dotted lines represent 95% confidence intervals.

## Results (continued)

**Analysis did not reveal significant differences in the quality of the caregiver–child interaction—as measured by caregiver verbalizations—between the treatment and control groups.** It is worth noting that other indicators of positive interaction, such as physical proximity, positive touch, smiling, and laughter were not assessed.

“First I use to beat on them because they were not understanding me at all, but right after this training the people taught me how to counsel your children, how to talk to them so that they can change and be somebody better, which I did. My children now don’t hesitate to do things I ask them to do which is the change I saw in them. . . It’s because the way I use to treat them, I’m not treating them like that again [anymore].”

—31-YEAR-OLD FATHER

Qualitative interviews with a subsample of caregivers who completed the intervention revealed reports of increased warmth and closeness in their relationships with their children. These changes were described both in terms of the caregivers’ feelings and behaviors towards their children, as well as their perceptions of the children’s responses to them. Caregivers emphasized the positive effects of intentionally spending more time with their children, such as playing, laughing, and being happy together. Many described that their transition from a harsher parenting style to a warmer, more nurturing approach resulted in the improvement of their interactions with their children, with negative interactions being replaced by positive ones. Some caregivers also reported making more effort to prioritize time with their child over competing demands. While instruction from the intervention was the initial motivation to do so, responses suggest that the rewarding nature of the interactions with their children encouraged them to continue. Notably, many of the respondents who reported these positive changes were male caregivers. A 52-year-old grandfather said: *“I am father, I was always busy, I did not have time to sit and discuss with my family. . .this training have brought me to love my children that we can sit down [and discuss] who is going to the market, what do you people suggest to eat today. . .those are positive changes.”*

In addition to describing an increase in unstructured positive interactions with their children, some caregivers reported improving organization and routine within the household.

Examples of these changes included increased communication and planning of family activities such as meal preparation with children and other family members. In some cases, respondents described helping young children with daily activities, such as bathing and eating, that they had previously expected them to perform independently. Responses suggest that caregivers learned more developmentally appropriate expectations for their children, including a greater understanding of children’s needs and what children can and cannot do for themselves. While this outcome was not measured in the impact evaluation, interview respondents also reported tangible improvements in how they provided and cared for their children. They often attributed this change to increased recognition of their children’s needs and the negative consequences of failing to provide. The most common theme was increased provision of basic needs, such as adequate food, clothes, and school fees and materials. Caregivers noted resulting benefits for their children, including improved health.

Interviews with caregivers suggest that a major contributor to improved caregiver–child relationships was the reduction in harsh parenting behaviors and the resulting decrease in children’s fear of interacting with their caregiver. In their examples, caregivers explained that children had been afraid to talk with them openly, particularly when they had a problem or request. Caregivers reported that children were no longer afraid and attributed this in part to learning that “children have feelings” and becoming more sensitive to those feelings. A 7-year-old girl also described a reciprocal interaction in which her good behavior prompted praise from her father: “When I finished eating the rice, I can tell my pa ‘thank you’ then my pa can say I ‘good girl!’”

Many caregivers also described personal changes that contributed to improvements in their care for their children, such as increasing time spent at home and avoiding harmful behaviors like substance use. A 39 year-old father explicitly linked his reduction in substance use to an improved ability to provide for his children’s needs: “I use to drink and smoke but I thank God I’m dropping all those things now, because the money I’m taking to buy cigarette and liquor I can use that as recess for my children. Since the people came and started advising us how to take care of our children, I looked into it and I left all of those things.”

## 4. Impact on children’s cognitive, emotional, and behavioral outcomes

**Results did not show a significant impact on children’s cognitive and academic skills.** Children of caregivers in the treatment and control groups did not differ in their performance on tests measuring verbal skills (e.g., use of vocabulary, listening comprehension of stories) or numeracy and counting skills. Impact on child cognitive and school readiness skills was generally in the expected direction with the exceptions of verbal comprehension and expressive vocabulary.

There were no significant differences in children’s communication behaviors between the two groups, as measured by the frequency of children talking to their caregiver or asking their caregiver questions. School enrolment, attendance, and absenteeism also did not differ between groups, nor was there a significant difference in parental involvement in their child’s education as measured by how frequently caregivers accompanied their child to school, talked with their child’s teacher or attended Parent-Teacher Association meetings. Caregivers’ reports of self-efficacy around education (e.g., their perceived ability to teach their child at home or help their child perform at school) also did not differ between groups.

“The training also made me know that when the children come from school you need to ask them what they did in school which will encourage them and made them do better in school. This year my child is the 3rd person in his class and it is the program that helped them improve like this in school.”

—35-YEAR-OLD FATHER

Qualitative findings, however, revealed that most caregivers perceived an increased involvement in their children’s education, such as helping their children get ready for school, walking them to school, and monitoring their attendance. A few caregivers also reported increasing their efforts to ensure that their child completed homework. Almost all respondents described more communication with their children about school activities, such as asking them to share what they had learned in school. Many also described engaging their children in learning activities at home, such as saying the alphabet, counting, reading books, or singing and telling stories together. These activities were encouraged in the intervention both for

enhancing the quality of caregiver–child relationships and increasing children’s verbal skills.

Many caregivers also reported an increase in their child’s academic motivation, such as their willingness to attend school, desire to do well, willingness to share with their caregiver what they did in school, and interest in studying or engaging in learning activities at home. Some reported improvement in their children’s academic abilities, including counting and saying the alphabet, and attributed these changes to increased involvement in their child’s education.

According to both caregiver and child survey reports, there were no significant impacts on children’s emotional or behavioral outcomes. Among caregivers who participated in qualitative interviews, some described observing behavioral, social, and emotional changes in their children. Caregivers reported increased obedience and respect from their children, as well as improvements in how their children interact with peers. While the majority of respondents did not explain how and why these changes in their child occurred, two caregivers noted that not using physical punishment was a factor.

## 5. Impact on malaria prevention knowledge and behaviors

**Results did not show a significant impact on malaria prevention outcomes.** Reported ownership of mosquito nets across both treatment and control groups was high at baseline as well as post-intervention (88% in treatment group and 89% in control group at post-test), as was reported mosquito net use (84% of caregivers in treatment group and 85% of caregivers in control group at post-test reported that the child slept under the mosquito net the previous night). Knowledge of malaria causes was high in both groups, but knowledge of malaria symptoms and prevention, as well as exposure to malaria-related public health messages, were low in both groups. There was no significant increase in mosquito net ownership or use, or malaria prevention knowledge among caregivers in the treatment group post-intervention.

Some of the caregivers who participated in qualitative interviews after completing the program discussed making more of an effort to keep a clean home and to ensure that their children were maintaining good hygiene. Two caregivers also reported health-related changes, reporting a decrease in how frequently their child gets sick. Related, they described recognizing and responding more promptly to health concerns, such as taking a child to the hospital when sick. At times, caregivers also made connections between meeting children’s

## Results (continued)

basic needs and improved child health. Some of the health-related changes in caregivers' behavior were specific to malaria prevention, such as the use of mosquito nets, which was explicitly discussed during the intervention.

### 6. Heterogeneity of treatment effects

With respect to harsh parenting, female caregivers reported significantly greater use of harsh punishment at baseline. Female caregivers also benefitted twice as much from the intervention as male caregivers, with greater reductions in the use of harsh punishment. Caregivers of boys reported significantly greater use of harsh punishment at baseline, but the impact of the intervention did not differ significantly by child gender. Child age, however, did significantly moderate the effectiveness of the intervention at reducing harsh punishment: caregivers of younger children showed greater reductions in the use of harsh punishment after participating in the intervention. Analyses also showed weak evidence that caregivers of children with more conduct problems at baseline responded more positively to the intervention in terms of decreased use of harsh punishment.

With respect to caregivers' use of positive behavior-management strategies and children's reports of positive interactions with their caregivers, there was little evidence that the treatment effect was influenced by demographic characteristics of the caregivers or children. A possible exception is caregiver gender with respect to the use of positive behavior-management strategies: the observed treatment effect appeared to be driven by male caregivers.

### 7. Perceptions of change in the family and community

In addition to improved caregiver-child relationships, interviews with caregivers revealed positive changes in the family that they attributed to the intervention. These were unexpected positive effects of the intervention that were not measured quantitatively through the survey. Respondents reported having "more peace" and "less confusion" in their households, particularly due to improvements in their marital relationships. Although this was not a main focus of the intervention, respondents described a decrease in conflict and violence in their relationship with their spouse—commonly described as "palaver" in Liberian English—as well as improved communication, problem solving, and an overall sense of greater "understanding" of one another. Male respondents reported less anger toward their wives, as did female

respondents toward their husbands; one man also reported decreased physical abuse of his wife. To avoid "palaver" or arguments, respondents described improved communication and problem-solving with their spouse. Positive changes included communicating more openly about problems and being more collaborative in problem solving and decision-making. In some cases, this was specifically related to sharing money and making financial decisions together.

Respondents reported learning about the negative effects of domestic violence on children as one motivation for reducing family conflict. Some reported not wanting to be poor role models for their children and others noticed that engaging in less conflict allowed them to devote more time and attention to their children. Some caregivers attributed changes in their partner's behavior, either within the marriage or toward the children, to sharing what they had learned from the intervention with the non-participating spouse. As a 36-year-old mother explained about her husband: "Yes, he's changing small [a little] because each time when I come from class, I can explain the lecture to him and it's helping him to change too."

“One of the main changes is my woman and I are not making confusion again like the way we used to make palaver [arguments] every time, and the people [facilitators] are even telling us not to be making palaver and abusing our woman because if we have confusion, our children will practice that from us.”

—47-YEAR-OLD FATHER

One facilitator of these positive changes seemed to be decreased substance use in some cases. Five male respondents reported that they had decreased their use of drugs and alcohol, which was recognized as a contributing factor to conflict with their spouse. Two women also mentioned that their spouses had stopped "walking about," or spending idle time away from home, due to participation in the intervention together. Other positive changes in the family related to increased structure and routine of household activities such as having household rules, having meals together, and praying together.

Finally, respondents described changes in their interactions with the community. These changes were mostly related to conveying what they had learned in the intervention to other community members, particularly information about

the negative effects of physical punishment, using non-violent discipline strategies, reducing conflict with spouses and children, and the importance of education. Beyond sharing information, some caregivers also described actively intervening in situations where they witnessed harsh punishment of children. Some further described being sought out by others in the community to counsel families experiencing problems related to parenting or family conflict. Caregivers reported becoming role models for the community; a 39-year-old father explained: “People are watching us in the community because the little we learned we can go and tell them...they can say, oh because of the program you people are changing.”

Participants had the option to meet outside of regularly scheduled group sessions through organized Parent Support Groups. The intended purpose of the Parent Support Groups was to encourage caregivers to support one another in learning and applying the intervention material, as well as catching up on any sessions they may have missed. Almost all interviewed caregivers reported participating in a Parent Support Group. Many also described that they used these “small small groups” to resolve issues that group members were dealing with in the home or community. Respondents

““ Yes, like the last time I saw somebody beating their child, and I told the person not to beat their child because if you beat the child, they will not understand what you are telling them and will only be thinking of the beating. But if he does wrong you should put him somewhere for at least 5 minutes and later you tell that child, the reason I put you over there is because the one you did was wrong, don't do it again,' and the child will understand it, but when you beat the child it looks very bad. ””

—47-YEAR-OLD FATHER

reported that the groups encouraged the sharing of ideas and unity and concern among group members. Interestingly, one respondent stated that their group could act as a resource for solving family problems in the community: “That was one of the impacts of the group apart from the class lesson...we informed the town chief that because of what we learned, not all of the cases will reach him; we will sometimes help to solve the problem.” Three participants reported continuing the Parent Support Groups after the completion of the program. ■



# Study Strengths and Limitations

The randomized design of the evaluation allows for attribution of results to the intervention, a chief strength of the study. Assessment tools also measured a range of parenting practices, including items used internationally as well as those specific to this context. This is important given the diversity of parenting practices across settings and the influence of culture on parenting style (Nikapota 2009). Children were also included in assessment of intervention effects using methods appropriate for their age, which helped to triangulate caregivers' reports of their own behaviors.

However, there are limitations that should be considered when interpreting results. First, as the assessment relied primarily on self-reported data, there is a risk of social desirability bias among both caregiver and child respondents. Qualitative and observation data were useful in triangulating survey results and suggesting convergences and divergences in evaluation findings. However, it is important to note that the qualitative data were collected from a small subsample of participants ( $n=30$ ) and should not be seen as representative of the study sample.

Further analysis of the performance of the observation measure is also necessary to determine its validity in assessing parenting style and caregiver–child interaction in a culturally diverse setting. Observations of caregiver–child interaction were audio-recorded rather than videotaped, and coding was conducted on transcripts by coders who were unfamiliar with the Liberian context or vernacular. Due to these limitations, only caregiver verbalizations were assessed as an indicator of positive parenting and caregiver–child interaction, rather than the full range of indicators such as physical proximity and positive touch. Further investigation is necessary to adapt

observation measures for use in contexts where videotaping or direct coding of caregiver–child interaction may be challenging.

Second, we used a combination of existing, standardized measures and novel measures developed or adapted specifically for this study. While these were pilot-tested and demonstrated acceptable reliability for this sample, they were not tested for all types of validity prior to their use. Thus, it is possible that some measures did not capture the outcome of interest fully in this context. This is particularly true for the assessment of children's cognitive abilities, as normed instruments do not exist for this population. Additional measures, particularly for assessing child outcomes, should be tested for reliability and validity with the specific population of Liberian caregivers and their young children.

Finally, the study design was limited by the lack of longer-term follow up. Due to project constraints, the post-intervention assessment was conducted only one month after the completion of the program, which was likely not sufficient time for certain caregiver and child outcomes to emerge. This is particularly true for the child cognitive, emotional, and behavioral outcomes, which are hypothesized to be more distal or longer-term outcomes in the theory of change and likely to improve over time with longer exposure to improved parenting practices (Hermanns et al., 2013). Furthermore, for children without emotional and behavioral problems at the time of the study, our hypothesis that the program may prevent the occurrence of future problems cannot be tested in the short-term. Without longer-term follow up, it is also not possible to know whether the positive impacts of the program are maintained or not. ■

# Conclusions and Recommendations for Research, Policy and Programming

This section presents conclusions based on findings from the impact evaluation of the Parents Make the Difference program and suggests future directions for research, policy, and programming for violence prevention and early childhood development in Liberia as well as other low-resource, post-conflict settings.

## **1. Parenting interventions are feasible and can be delivered in resource-constrained, culturally diverse and post-conflict settings.**

The IRC's experience of implementing the Parents Make the Difference program with caregivers in rural Liberia suggests that parenting interventions are feasible and can be delivered at a low cost even in post-conflict contexts characterized by very limited financial and human resources. Similar to other parenting interventions in developing countries, the Parents Make the Difference program was delivered by lay facilitators from Liberia. Observations from program monitoring visits and fidelity monitoring tools suggest that facilitators were able to deliver a manualized intervention with fidelity. The feasibility of lay workers or paraprofessional staff delivering the intervention is particularly relevant in low-resource, post-conflict settings where local capacity is likely to be weak (Knerr, Gardner & Cluver 2013), and will allow implementation at scale to reach a greater number of caregivers and children.

High levels of participant attendance and satisfaction indicate the acceptability of the parenting intervention among families in rural, post-conflict Liberia. Acceptability of the intervention may be due in part to the use of formative research to inform the cultural adaptation of program curriculum and materials. Similar to other intervention studies that have shown acceptability and effectiveness of parenting interventions across cultural groups, the experience of the Parents Make the Difference program has been that surface adaptations (i.e., ones that do not change core principles of the original treatments) to evidence-based intervention approaches used in other contexts are sufficient to address culturally-specific differences in parenting practices or norms (Knerr, Gardner & Cluver 2013). However, such adaptations are most useful when based on qualitative research and pilot testing.

## **2. Brief parenting skills building interventions can decrease caregivers' use of violence as a form of punishment.**

Contrary to the assumption that the use of physical and psychological punishment is socially and culturally

entrenched, the study found that a short parenting intervention of 10 weeks was effective at changing how caregivers discipline their children. This is an important finding, given that the majority of violence against young children likely occurs in the context of discipline (UNICEF 2010). The effectiveness of parenting interventions in reducing the use of physical and psychological punishment has been found in numerous studies from high-income countries, including those targeting low-income and culturally diverse groups, as well as in studies from low- and middle-income countries (Knerr, Gardner & Cluver 2013). This consistency in the evidence base suggests that targeted parenting interventions of short duration can be effective at changing discipline practices and, in particular, reducing the use of physical and psychological punishment, even in contexts where such forms of punishment are highly normative. Policies and programs should therefore shift from focusing only on awareness raising or "sensitization" activities to also include skills-building interventions that equip parents and caregivers with concrete techniques they can use to manage their children's behavior without the use of violence.

## **3. Further development and testing of program theory and content are necessary to achieve multiple caregiver and child outcomes beyond parenting behaviors.**

The study did not find an impact on early childhood development outcomes such as cognitive and school readiness skills, or social and emotional wellbeing. It is possible that the post-test survey—administered at only one month post-intervention—did not allow sufficient time for these outcomes to emerge. The theory underlying parenting interventions is that changes in parenting behavior and practices, including reduction in the use of violence, will have an impact on children's development and wellbeing. However, while parenting behavior and practices may be amenable to change within the short timeframe of the intervention, it may be that their impact on child outcomes takes a longer time to emerge (Hermanns et al., 2013). This is consistent with the theory of change for the Parents Make the Difference program, which hypothesizes that

there will be improvement in children's cognitive, emotional, and behavioral development and wellbeing in the long term.

Measurement of children's cognitive, emotional, and behavioral outcomes is a general challenge for the field of early childhood development, and even more so in a low-resource and culturally diverse setting. More research is required to develop, adapt, and test the reliability and validity of early childhood development measures for culturally diverse populations.

Further refinement of the intervention design, curriculum, and related materials may also be necessary to strengthen caregivers' competencies and skills to enhance child development, in particular, cognitive development. This may be particularly true for caregivers with limited formal education or cultures in which caregiver-child interaction targeted at cognitive skills development is not common. Additional content devoted to structured role play and practice, including with children at home or in session, may help caregivers increase their comfort and skill with activities aimed at boosting their children's development. A meta-analytic review of components associated with the effectiveness of parenting interventions found that requiring *in vivo* practice between the caregiver and child during the program sessions was associated with larger positive effects on parenting practices and child behavioral problems (Kaminski et al. 2008).

Similarly, the intervention only included one session on malaria prevention, which may not have been sufficient to change knowledge and behavior in the short term. Other research has shown that simply informing communities about malaria transmission and the need to use mosquito nets to prevent malaria was not associated with behavior change, suggesting that more intensive engagement with caregivers around the benefits of consistent net usage may be required (Adongo 2005). Whether parenting interventions can be used to achieve multiple outcomes across various sectors (e.g., health, education, early childhood development, and violence prevention) or not remains an empirical question that requires further research.

#### **4. More rigorous and longitudinal research is necessary to strengthen evidence base in low-resource, post-conflict settings.**

Recent reviews of parenting interventions in low- and middle-income countries indicate a lack of rigor in most study designs (Mejia, Calam & Sanders 2012; Knerr, Gardner & Cluver 2013). Most studies were hampered by small sample sizes, lack of

information about statistical power, over-reliance on self-reported outcomes, poor reliability and validity of measures, and no or very short-term follow up. Several studies only measured caregiver outcomes and not child outcomes, thus limiting the conclusions that can be drawn about impact on child development and wellbeing.

This study addressed some of these challenges, including using measures that were adapted or developed specifically for the Liberian context, piloting an observation measure, and assessing child outcomes. However, further efforts are required to increase the rigor of future research on parenting interventions in low-income and conflict-affected settings. In particular, validation of cross-cultural measures, adaptation of observation methods for use with low-resource and culturally diverse populations, and follow-up of *at least* 12 months post-intervention to assess emergence or maintenance of longer-term outcomes are necessary. Further research is also required to understand the cost effectiveness of various intervention models, and the scalability and sustainability of interventions when delivered using a public health and social service workforce model.

## **Recommendations for the Government of Liberia**

- 1.** Incorporate parenting and family based skills-building approaches into national policy regarding child protection and early childhood development, drawing on the well-established evidence base on parenting interventions in high-income countries, and the growing body of research from low- and middle-income countries.
- 2.** Determine if parenting interventions can be delivered sustainably and at scale in multiple districts and counties by piloting the delivery of the intervention through the existing government workforce (e.g., Social Welfare Officers) and a cadre of paraprofessional staff. Invest in capacity building of line ministries and county and district department staff on the theory and principles underpinning parenting interventions. Build a cadre of professional and paraprofessional staff trained in the delivery of the intervention and provide ongoing mentoring and supervision.
- 3.** Ensure that delivery of the intervention through the government workforce is rigorously evaluated to determine if positive results are replicated.

## Conclusions and Recommendations for Research, Policy and Programming (continued)

### Recommendations for donors and policy makers

1. Advocate for and support policy and programming that reflect interventions with a strong evidence base, including shifting away from program activities that are not supported by rigorous evidence. Ensure that policies and programs involving raising awareness or “sensitization” activities also include skills-building interventions that equip parents and caregivers with concrete techniques that they can use to manage their children’s behavior without the use of violence.
2. Support the Government of Liberia to build the capacity of line ministries and county and district department staff on parenting and family-based interventions, including piloting and evaluating the delivery of the parenting intervention through the government workforce.
3. Based on evaluation findings, support scale-up of effective interventions using a public health and social service workforce model, including supporting the evaluation of intervention effectiveness when delivered by government ministries or other public institutions.
4. Advocate for and support evidence-based intervention design and rigorous evaluation of parenting interventions in other low-resource and post-conflict settings to assess if feasibility, acceptability, and effectiveness differ substantially by context. Fund multi-year programs that begin with qualitative research to adapt and contextualize the intervention for the specific setting and pilot testing to ensure feasibility and acceptability for the specific population, followed by rigorous evaluation through the use of experimental or quasi-experimental designs. Sufficient time and funding are required to achieve the large sample sizes required for an efficacy or effectiveness trial and to undertake longitudinal data collection.

### Recommendations for practitioners and researchers

1. Develop resources for training, mentoring, and supervising the government workforce to deliver parenting interventions in Liberia. Support the Government of

Liberia to identify and address institutional barriers to incorporating parenting and family-based approaches into national policy, and to delivering the intervention with fidelity. Collaborate with the government to design and conduct rigorous monitoring and evaluation of pilot programs delivered through the government workforce prior to scale-up if results are positive.

2. Collaborate with partners on adaptation, implementation, and evaluation of skills-based parenting interventions in a variety of low-resource and conflict-affected settings. In new settings, begin with qualitative research and pilot testing of intervention materials to maximize cultural relevance and acceptability, which can lead to full-scale implementation and impact evaluation to generate evidence about effectiveness across contexts.
3. Collaborate with partners to further develop, refine, and test theories of change for multi-sector interventions aimed at achieving multiple caregiver and child outcomes around violence prevention, early childhood development, education and health. Ensure that the theory of change articulates hypothesized pathways around immediate and long-term knowledge and skills acquisition, changes in attitudes and beliefs, and behavior change, which can then be tested through qualitative and quantitative methods.
4. Increase the rigor of research on parenting interventions in low-resource settings by using experimental or quasi-experimental study designs where feasible, conducting longer-term follow-up of study participants, and improving cross-cultural measurement. Validate caregiver and child outcome measures with the goal of being culturally and contextually grounded while allowing for comparison across similar studies. Adapt direct observation methods for use in low-resource, culturally diverse settings.
5. Design and conduct research to determine the core components of parenting interventions that are consistently associated with the largest effects on parenting and child outcomes. Use findings to inform the investment of resources in these components or strategies in order to achieve the largest impact for the greatest number of children and families. ■

# Annexes

## Baseline characteristics and test of balance

Characteristics	Control (n= 135)	Treatment (n= 135)	p-value
<i>Caregivers</i>			
Mean age (SD)	35.89 (10.80)	35.12 (9.69)	0.538
Female	0.56	0.59	0.624
Married or cohabiting	0.90	0.90	1.000
Christian	0.67	0.69	0.795
Mean household income last 4 weeks (SD)†	29.88 (47.77)	27.96 (41.11)	0.723
Mean hours worked in typical week (SD)	22.54 (20.15)	24.14 (19.12)	0.504
Mean household size (SD)	7.13 (3.87)	7.07 (3.15)	0.890
Mean number of dependents under 18 (SD)	3.79 (1.99)	3.56 (1.67)	0.290
Biological caregiver of target child	0.84	0.83	0.871
<i>Children</i>			
Mean age (SD)	5.16 (1.23)	5.16 (1.06)	1.000
Female (%)	0.54	0.52	0.716
Mean SDQ conduct (SD)	4.99 (1.33)	5.17 (1.39)	0.284

Note. † An exchange rate of 74.2 Liberian Dollars per \$1USD (September 12, 2012) was used to convert to USD. Self-reported income top-coded at the 99th percentile.

**Demographic characteristics of qualitative interview respondents (caregiver)**

<b>Male, <i>n</i> (%)</b>	14 (47)
<b>Christian, <i>n</i> (%)</b>	22 (73)
<b>Muslim, <i>n</i> (%)</b>	7 (23)
<b>Traditional beliefs, <i>n</i> (%)</b>	1 (3)
<b>Married or In a Relationship, <i>n</i> (%)</b>	27 (90)
<b>Separated/Divorced, <i>n</i> (%)</b>	2 (7)
<b>Widowed, <i>n</i> (%)</b>	1 (3)
<b>Never Attended School, <i>n</i> (%)</b>	11 (37)
<b>Primary School, <i>n</i> (%)</b>	7 (23)
<b>Post-Primary Education, <i>n</i> (%)</b>	12 (40)
<b>Age of child (years) (M; Range)</b>	4.9 (3-7)
<b>Biological Mother, <i>n</i> (%)</b>	12 (40)
<b>Biological Father, <i>n</i> (%)</b>	12 (40)
<b>Aunt/Uncle, <i>n</i> (%)</b>	2 (7)
<b>Grandparent, <i>n</i> (%)</b>	4 (13)

## Results summary

Outcome	Scale (>)	Control		Intent-to-Treat (N=270)			$\Delta$
		Mean	SD	$\beta$	SE	95%CI	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<b>Primary Outcomes</b>							
<i>Parenting Behaviors</i>							
Harsh discipline composite, caregiver report	0-4 (-)	0.88	0.8	-0.49	0.08***	(-0.65 to -0.33)	-0.61
Positive behavior management composite, caregiver report	z (+)	-0.11	1.01	0.25	0.12*	(0.02 to 0.48)	0.24
<i>Caregiver-Child Interactions</i>							
Positive interaction composite, caregiver report	1-10 (+)	7.69	1.58	0.34	0.17*	(0.01 to 0.67)	0.22
Positive interaction composite, child report	0-3 (+)	1.81	0.82	0.32	0.09***	(0.13 to 0.5)	0.38
<b>Secondary Outcomes</b>							
<i>Communication</i>							
Caregiver praises normalized by number of verbalizations	ratio (+)	0.03	0.05	0.01	0.01	(-0.01 to 0.02)	0.1
Number of child verbalizations	count (+)	87.57	66.89	-6.24	7.03	(-20.09 to 7.61)	-0.09
Child verbalizations as percentage of total verbalizations	0-100 (+)	63.07	24.65	-1.93	2.86	(-7.57 to 3.71)	-0.08
<i>Child Cognitive Abilities</i>							
Child language ability	z (+)	0.03	0.91	0.09	0.1	(-0.11 to 0.28)	0.1
Child numeracy and counting	0-7 (+)	4.85	2.04	0.38	0.21	(-0.03 to 0.78)	0.18
<i>Child Wellbeing</i>							
SDQ: hyperactivity, caregiver report	0-10 (-)	4.21	1.82	-0.17	0.22	(-0.59 to 0.26)	-0.09
SDQ: emotional, caregiver report	0-10 (-)	4.16	1.9	-0.33	0.24	(-0.79 to 0.14)	-0.17
SDQ: conduct, caregiver report	0-10 (-)	2.09	1.65	0.06	0.21	(-0.34 to 0.47)	0.04
<i>Malaria Prevention</i>							
Household owns bed net, caregiver report	0-1 (+)	0.9	0.31	0	0.03	(-0.07 to 0.07)	-0.01
Child slept under the bednet last night, caregiver report	0-1 (+)	0.87	0.33	-0.01	0.04	(-0.08 to 0.07)	-0.03

·  $p < 0.1$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Note. This table reports average treatment effects that are based on a comparison of caregivers assigned to the treatment and control groups. Column 1 lists the scale of each outcome. The character in parentheses indicates the valence of higher values: good (+) or bad (-). Columns 2 and 3 report unadjusted means and standard deviations among the control group. Columns 4 and 5 report the results from an OLS regression of each outcome on an indicator of assignment to treatment, community fixed effects (omitted), and a vector of baseline covariates (omitted). Column 6 reports the 95 percent confidence interval on the estimate reported in Column 4. Column 7 reports Glass's  $\Delta$ , a standardized effect size (ATE/control group SD).

## Treatment heterogeneity

	Outcomes (reporter, scale)		
	Harsh Parenting (caregiver, 0-4)	Positive Behavior Mgmt (caregiver, z)	Positive Interaction (child, 0-3)
Baseline Covariates	$\beta$ [SE]	$\beta$ [SE]	$\beta$ [SE]
Assigned to treatment	-0.31 [0.12]*	0.49 [0.18]**	0.34 [0.14]*
Female caregiver	0.44 [0.12]***	0.12 [0.18]	0.25 [0.14]
Female caregiver x Assignment	-0.31 [0.16]	-0.43 [0.24]	-0.03 [0.19]
Assigned to treatment	-0.60 [0.12]***	0.11 [0.17]	0.33 [0.14]*
Female child	-0.30 [0.12]**	-0.09 [0.17]	0.03 [0.13]
Female child x Assignment	0.20 [0.16]	0.26 [0.24]	-0.03 [0.19]
Assigned to treatment	-1.41 [0.37]***	-0.10 [0.55]	-0.22 [0.43]
Child age	-0.08 [0.05]	-0.06 [0.07]	0.01 [0.05]
Child age x Assignment	0.18 [0.07]*	0.07 [0.10]	0.10 [0.08]
Assigned to treatment	0.37 [0.42]	0.35 [0.64]	0.22 [0.50]
Child conduct	0.08 [0.03]**	0.00 [0.04]	-0.04 [0.03]
Child conduct x Assignment	-0.07 [0.03]*	-0.01 [0.05]	0.01 [0.04]
Obs	270	270	270
Control Mean	0.88	-0.11	1.81

·  $p < 0.1$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Note. This table displays the results of a moderation (subgroup analysis). We examine treatment heterogeneity in three outcomes—harsh parenting, positive behavior management, and positive interaction—according to four characteristics measured at *baseline*: (i) caregiver gender, (ii) child gender, (iii) child age, and (iv) child conduct problems. We estimate treatment heterogeneity by interacting assignment to treatment with each baseline covariate.

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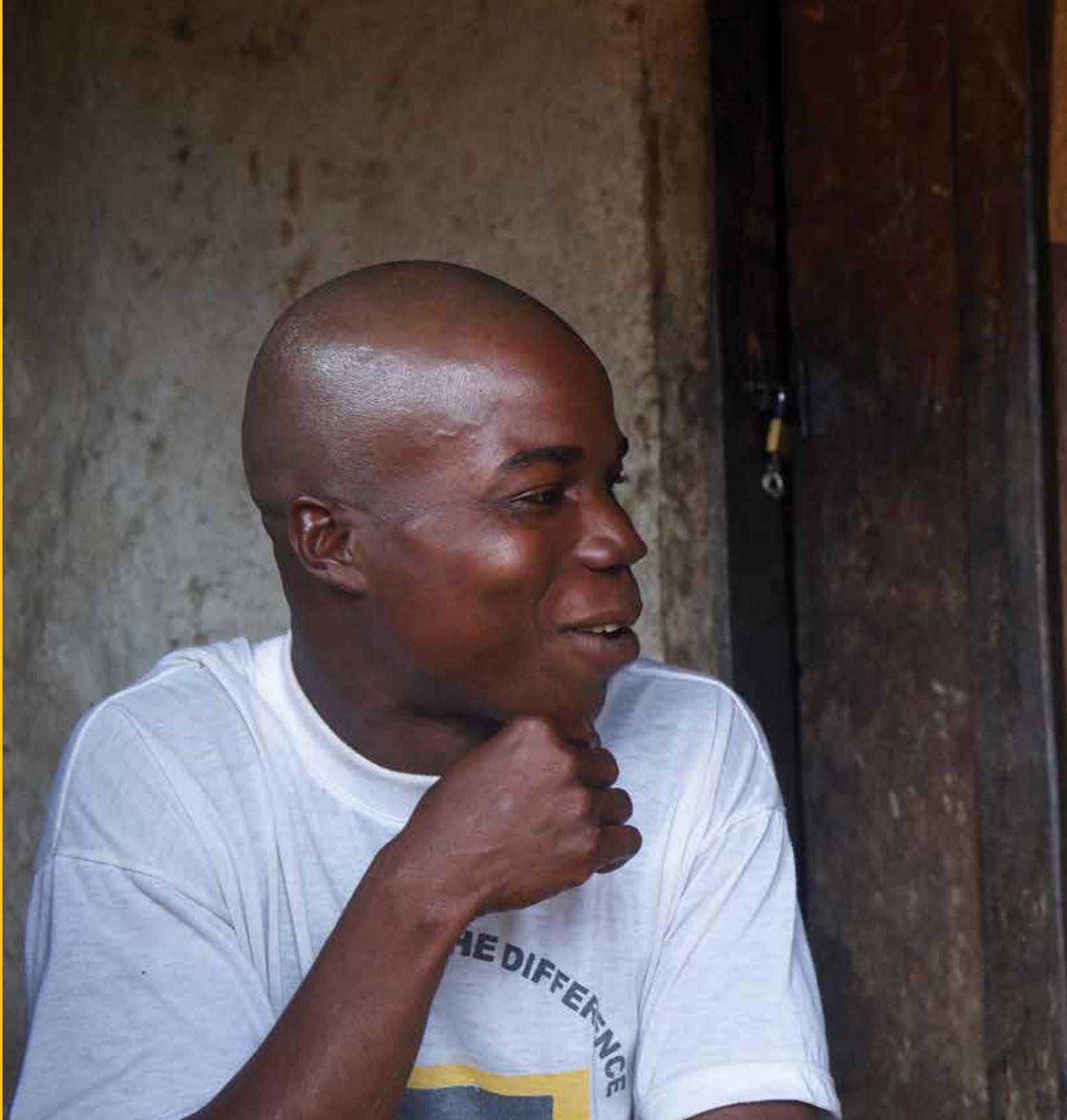
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