



Parents Make the Difference

Evaluation Results

Duke Global Health Institute and the International Rescue Committee

In Sub-Saharan Africa, **2 out of 3 children** are at risk of not reaching their developmental potential (43% globally, 2010)



Children reach **developmental potential** when they acquire developmental competencies for academic, behavioural, socio-emotional, and economic accomplishments.



Black, M. M., Walker, S. P., Fernald, L. C., Andersen, C. T., DiGirolamo, A. M., Lu, C., ... & Devercelli, A. E. [2017]. Early childhood development coming of age: science through the life course. *The Lancet*, 389[10064], 77-90.

Children who do not reach their developmental potential are **less likely to be productive adults** because they attend less school and learn less when in school.



REACH DEVELOPMENTAL POTENTIAL

NURTURING CARE

HEALTH

- Disease prevention and treatment
- Immunization and well child visits
- Water, sanitation, and hygiene

NUTRITION

- Dietary diversity
- Complementary food
- Macronutrients and micronutrients
- Breastfeeding

SECURITY AND SAFETY

- Reduce adversities (abuse, neglect, violence)
- Non-institutional family care and early intervention for vulnerable children
- Birth registration

RESPONSIVE CAREGIVING

- Responsive parenting, feeding
- Home visiting, parenting programs
- Caregiving routines
- Support emotional development
- Caregiver nurturance and continuity

EARLY LEARNING

- Continuity to primary school
- Access to quality child care and preschool
- Home opportunities to explore and learn
- Books, toys, and play materials
- Home visit, parenting

BEGINS

enabling environment for caregiver, family, and community

social, economic, political, climatic, and cultural contexts

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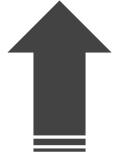
enabling environment for caregiver, family, and community

social, economic, political, climatic, and cultural contexts

CHILDREN ARE RESILIENT IN THE FACE OF CHALLENGES



**TOXIC
STRESS**



DEPRIVATION

NEGLECT

VIOLENCE

MALNUTRITION

ILLNESS

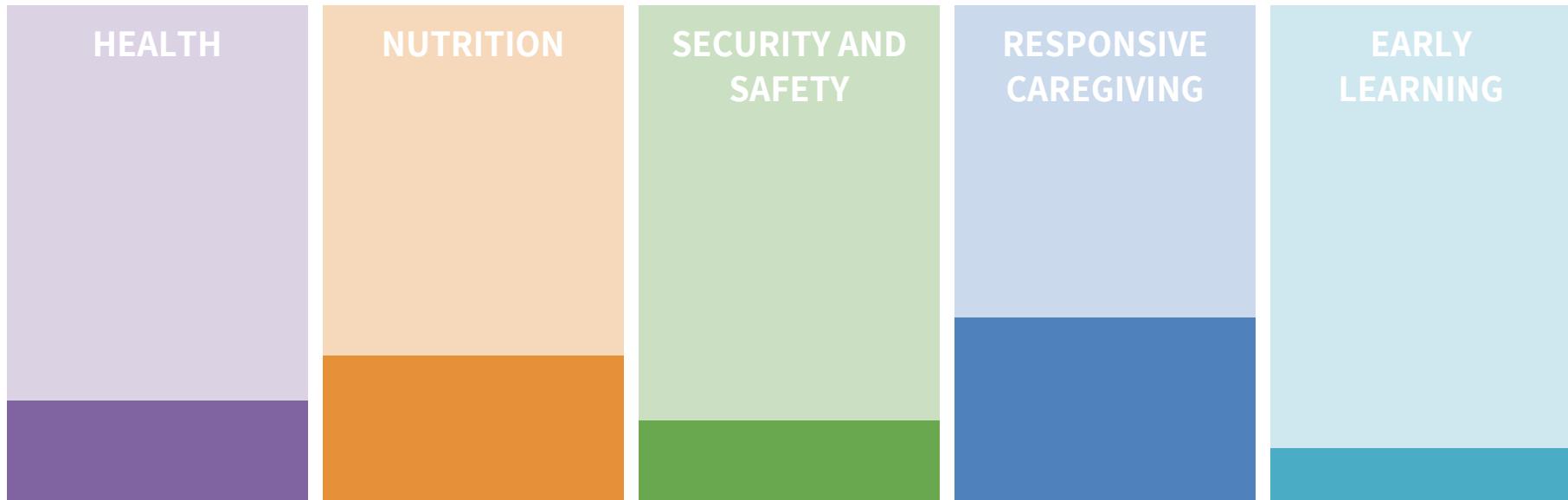


BUT THEY DON'T HAVE SUPERPOWERS

Early life adversities affect life course development and adversities accumulate

The absence of nurturing care results in a loss of developmental potential

INTERVENTIONS TO PROMOTE NURTURING CARE

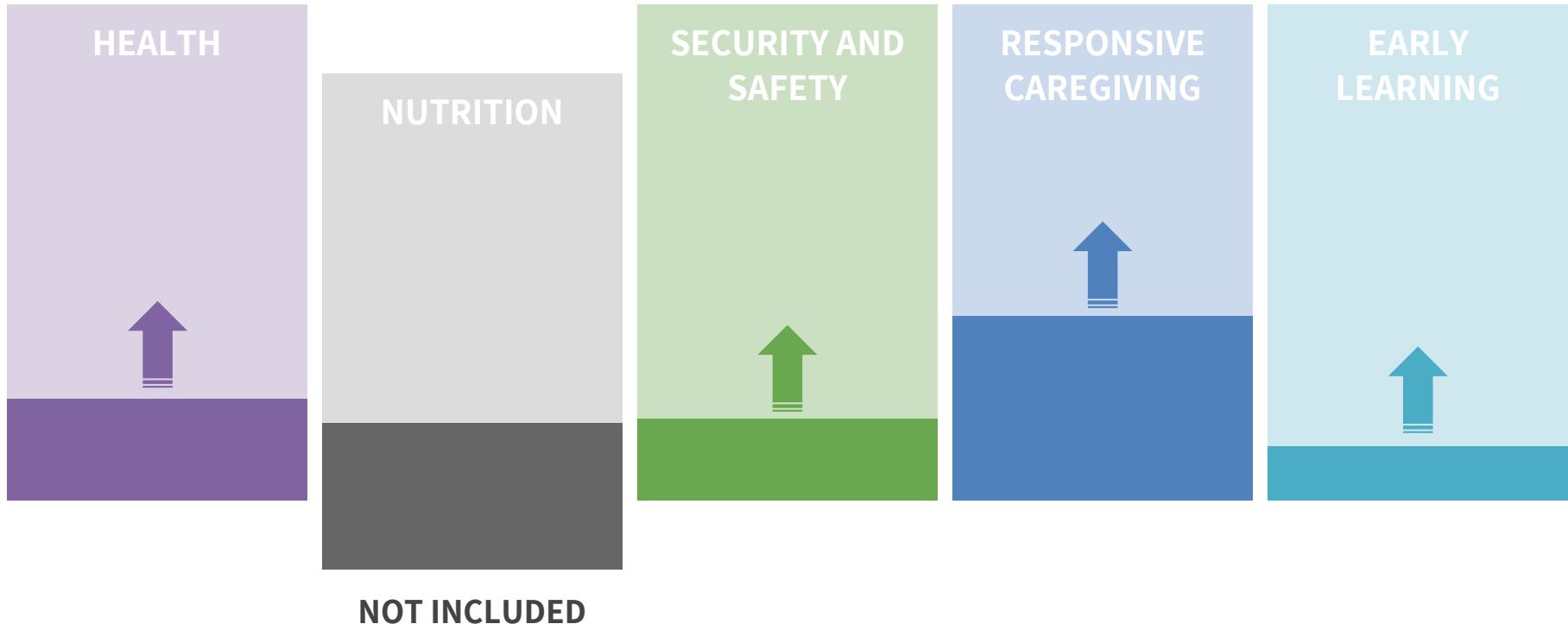


enabling environment for caregiver, family, and community

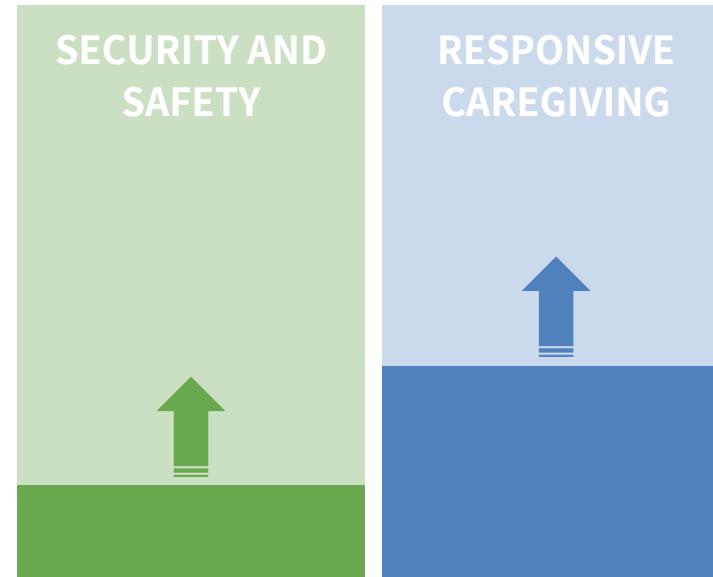
social, economic, political, climatic, and cultural contexts

POLICY-LEVEL

"PARENTS MAKE THE DIFFERENCE"



"PARENTS MAKE THE DIFFERENCE"



WHAT IS PARENTING?

Behaviors: What We Do

- Basic protection / meeting needs
- Behavior management
- Communication and attention



ISN'T PARENTING CULTURE-SPECIFIC?



SOME ASPECTS THAT DIFFER ACROSS CULTURES

- Our balance of warmth and control (“style”)
- Specific discipline strategies we use
- How we talk with children
- How we express positive and negative feelings
- How gender influences our caretaking roles



SIMILARITIES ACROSS CULTURES

- Harsh discipline is related to worse child behavior
 - not identical across cultures but relationship consistent
- Relationship quality with parents influences child mental health

Lansford, J. E., Chang, L., Dodge, K. A., Malone, P. S., Oburu, P., Palmérus, K., ... & Tapanya, S. [2005]. Physical discipline and children's adjustment: Cultural normativeness as a moderator. *Child Development*, 76(6), 1234-1246.



DISCIPLINE IS A SENSITIVE TOPIC



WHAT'S THE DIFFERENCE?

"Without _____ we will spoil our children."

- a. *beating*
- b. *discipline*



WHAT'S THE DIFFERENCE?

"Without **beating** we will spoil our children."



Beating can lead to physical harm and excessive fear. It punishes but does not teach, and often the behavior is repeated

WHAT'S THE DIFFERENCE?

"Without **discipline** we will spoil our children."



We need discipline that does not harm or create fear BUT that makes children respect parents and teaches specific, good behaviors.

THE PMD APPROACH

PMD includes discipline.

The goal is to keep parents in charge by giving tools for enforcing rules, punishing negative behavior, and preventing naughty behavior in the first place.



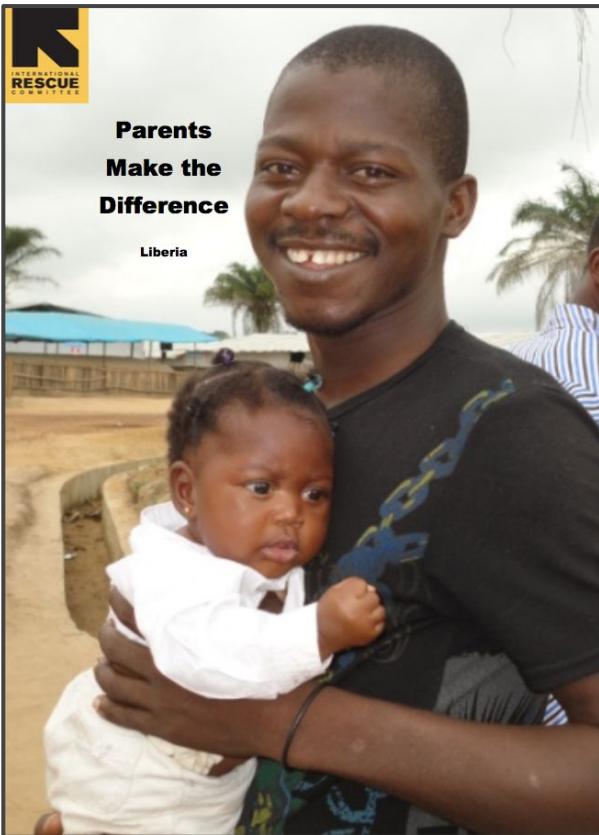
THE PMD APPROACH

But PMD goes beyond discipline.

PMD tackles the range of parenting responsibilities we have under the umbrella of how to nurture our children in many different ways.



PMD CURRICULUM, GROUP SESSIONS



1. Introduction: Becoming a positive parent
2. Child development: Appropriate expectations
3. Communicating and connecting with children
4. Discipline with dignity
5. Protecting children from disease:
Handwashing that works
6. Preparing your child for school: Fun with words
7. Preparing your child for school: Fun with
numbers and drawings
8. Nurturing rules and routines
9. Managing my feelings and creating a calm
home
10. Closing ceremony: Public commitment to our
children

GROUP SESSIONS

- 2 hours
- 2 facilitators (non-specialists) and 16 parents
- Interactive with emphasis on skills practice
- \$3 incentive per session







3 HOME COACHING VISITS

- 1 facilitator from group session visits individual families after group sessions 3, 6, and 9
- Caregivers plus children and other family members encouraged to participate
- Hour-long visits
- Structured visit, emphasis on skills practice and coaching

Home Visit 1
Version 4.0

HHID	██████	PMD staff name	_____	Date of Visit	____ / ____ / ____
List the names of participants		Who	Engagement	Attendance	
		1 primary caregiver	1 Low	1 Partial	
		2 secondary care	2 Moderate	2 Complete	
		3 other adult	3 High		
		4 target child			
		5 other child			

Session Components (In each box, Write one: C=completed; P=partial; N=not completed)

1. **Introduction to both parent and child:** Thank the family for having you in their home and for being present for today's visit. Introduce yourself to the child. Explain to the child that you are coming to the house to get to know their family. Tell them you will learn some things from them, and they may learn some things from you.

2. **Introduction to parent:** Explain to the parent(s) that you will visit them at their home three times throughout the program (including today). The goal of the home visits is to learn more about their family and help them use the skills they are learning in the program at home with their child. Tell them that you are like a coach that can help them figure out how best to use the skills with the child.

3. **Learning about the family:** Tell parents you are going to ask them a few questions to learn about their family and their child. Tell them you might write down some things they say because it is important for you to remember.

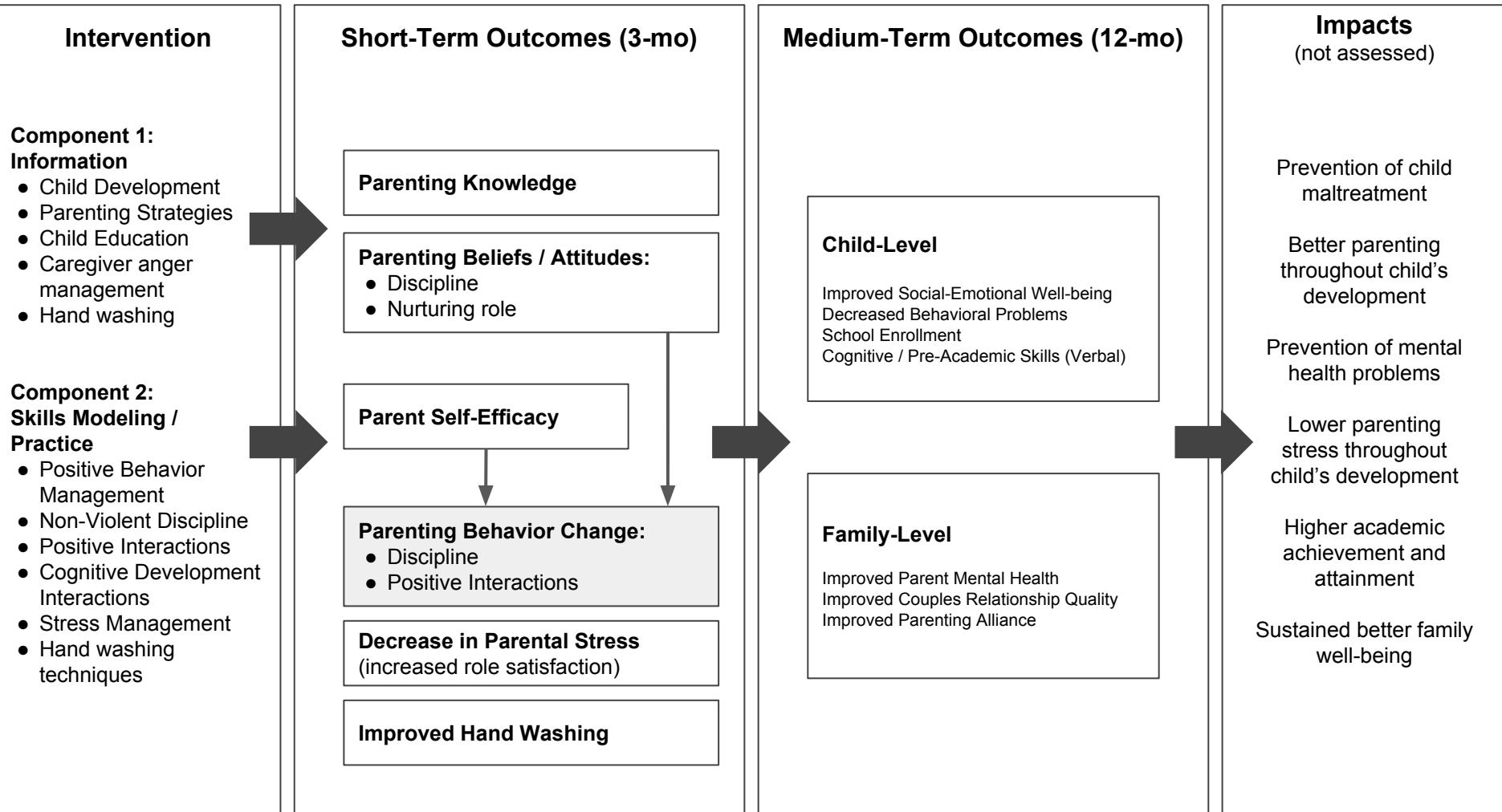
3A Is (child's name) going to school now?
If YES: Yes N
i. Where does s/he go to school? _____
ii. How is s/he doing in school now? _____
If NO: iii. Is there a plan for her/him to go to school? _____

3B Does your child have friends?
If YES: Yes N
i. Does s/he get along well with the friends? _____
If NO: ii. Why do you think s/he does not have friends? _____

3C What do you like about your child? What does s/he do well?

3D Are you having any challenges with your child right now? Is there anything you want help with relating to your child? *(If the parent says no, that is okay. Some of the children might be doing very well, and that is a good thing. We can still help the parents learn to use the skills of the program to promote all of the positive things about the child.)*

4. **Summarize Information and Note Strengths:** Summarize what the parent told you, listing at least two strengths about the family and the child. For example, you might say: *Thank you for all of this information. It is very helpful for me. There are a lot of good things about your child. You*



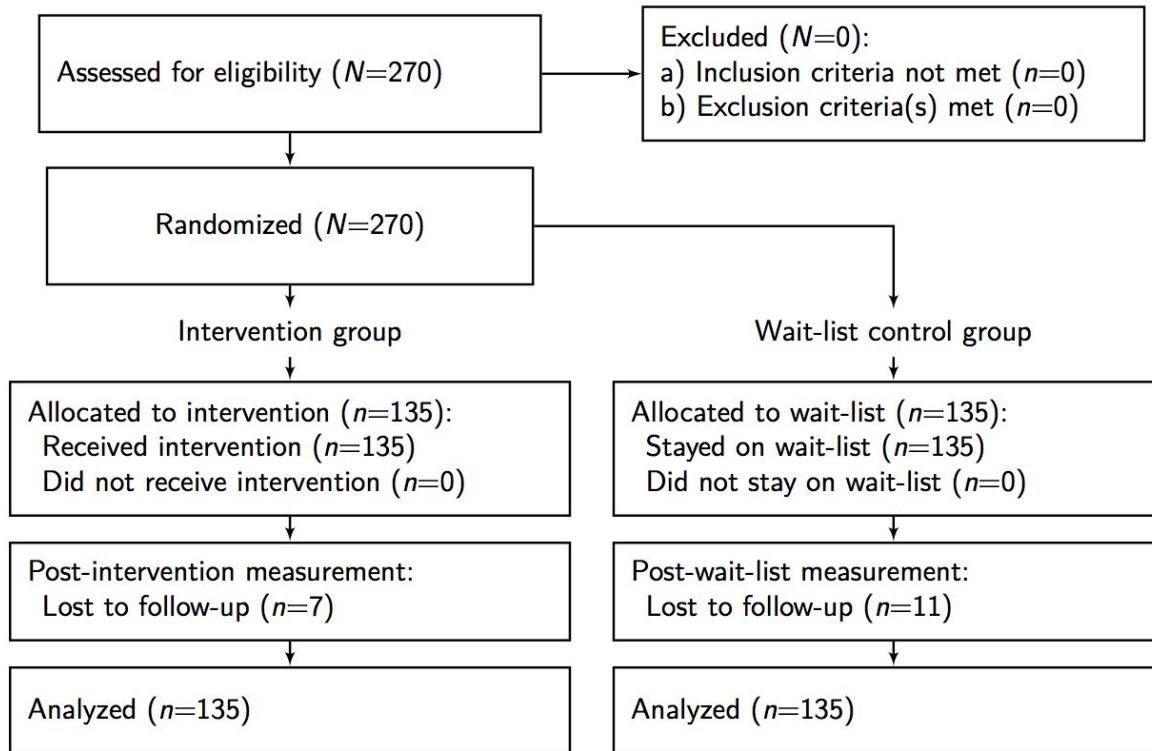
PMD 1 RESEARCH QUESTIONS

- Rural, Lofa County
- 2012-13
- 270 households with a child ages 3-7
- Would the PMD curriculum be **feasible** to implement with lay facilitators?
- Would the PMD program be **acceptable** to rural caregivers of young children?
- Would the intervention **reduce** the use of harsh parenting, **increase** the use of positive parenting, and **improve** caregiver-child interactions?



PMD 1 TRIAL DESIGN

INTENT TO TREAT ANALYSIS (270 HOUSEHOLDS, 270 CAREGIVERS, 270 CHILDREN)



PARTICIPANT CHARACTERISTICS

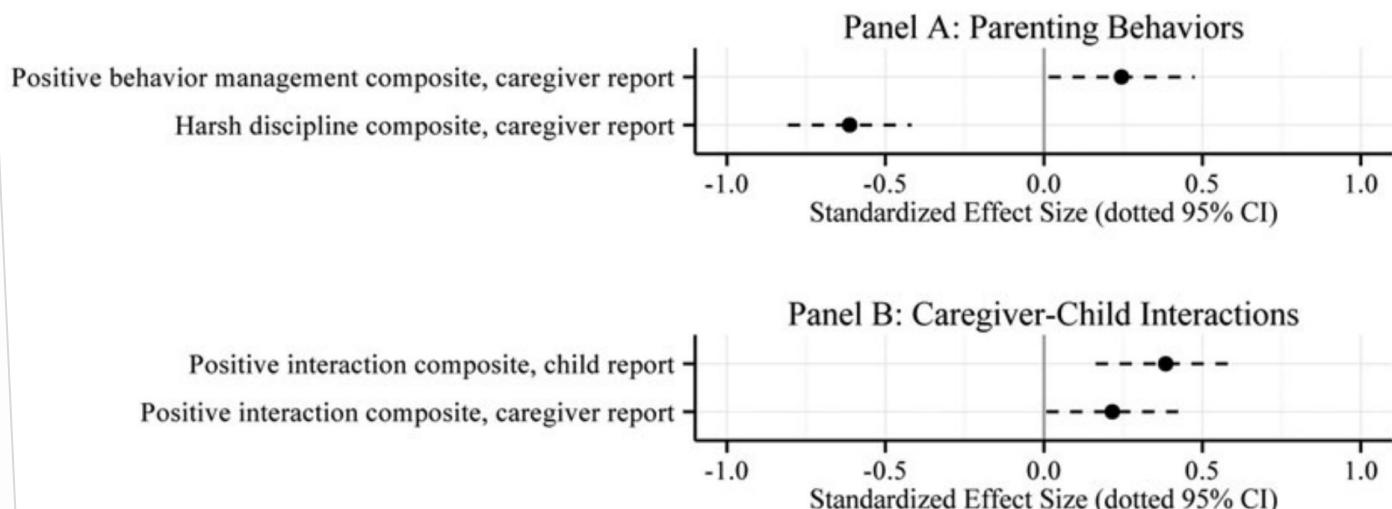
Characteristics	Control (<i>n</i> = 135)	Treatment (<i>n</i> = 135)	<i>p</i> value
Caregivers			
Mean age (S.D.)	35.89 (10.80)	35.12 (9.69)	0.538
Female	0.56	0.59	0.624
Married or cohabiting	0.90	0.90	1.000
Christian	0.67	0.69	0.795
Mean household income last 4 weeks (S.D.) ^a	29.88 (47.77)	27.96 (41.11)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

SDQ, strengths and difficulties questionnaire

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

IMPROVED INTERACTIONS AND PARENTING

55% REDUCTION IN HARSH DISCIPLINE



No impacts on secondary outcomes of child well-being or cognitive skills.

PARENT INTERVIEWS

PARENTS LEARNED HOW IMPORTANT THEY ARE IN THEIR CHILDREN'S LIVES

"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 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 looks, so they told us it's not good to hold our child bad and so we agree and we like that one."

-51 year-old mother of a 6 year-old boy

PARENT INTERVIEWS

PARENTS REPORTED REDUCING USE OF VIOLENT DISCIPLINE

"If the children did wrong, I never used to advise them...As soon as I know that it was this one that did wrong, I just beat that child...but now if she does something wrong, I call her and ask her, and if she says yes (I did it), then I advise her and say, 'Don't do it again. If you do it again I will punish you'."

-35 year-old father of a 5 year-old girl

PARENT INTERVIEWS

INCREASED SUPPORT FOR CHILDREN'S HEALTH AND NEEDS

“They use to always tell me, ‘Ma, this place hurting me,’ but now the way I can maintain them with their food and clothes, they are not complaining of any sickness.”

-Grandmother of a 5-year-old

PARENT INTERVIEWS

BETTER INTERACTIONS WITH THEIR CHILDREN

"They never use to sit down in one area [together], but after this training, I can call them; we sit down and be lecturing and laughing and they can't go different area to walk around again."

-30 year-old father of a 4 year-old boy

PARENT INTERVIEWS

BETTER PARENTAL MONITORING AND SUPPORT FOR LEARNING

"This time my children don't go out to walk about the whole day but they can stay home and study their lesson and we can talk story together."

-48 year-old mother of a 7 year-old girl

PARENT INTERVIEWS

PMD HAD A POSITIVE IMPACT ON MARITAL RELATIONSHIPS AND FAMILY LIFE

"Another thing is the relationship with my wife. Sometimes there used to be mix[ed] feeling[s] no matter what happened, as husband and wife...there must be confusion. This program is helping to resolve our problems. When I used to go to Voinjama to get my little money, I possess it myself...but this time now I can take it and give it to her [wife]...If I want anything, I ask her and she give it to me."

-48 year-old father of a 7 year-old boy

PARENT INTERVIEWS

SOME FATHERS REPORTED DECREASED SUBSTANCE USE

"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 [snack money for school] for my children, and 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"

-39 year-old father of a 5 year-old boy

CONCLUSIONS AND IMPLICATIONS

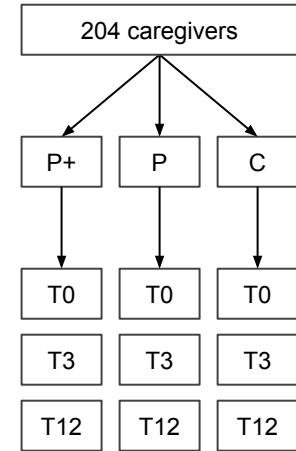
- Behavioral parenting skills approach is **feasible and effective** in a setting where physical punishment is common
- PMD had **positive impacts**:
 - Largest improvement: Decrease in harsh discipline
 - Positive interactions increased
- Qualitative research indicates there may be broader marital and family-level benefits

BUILDING ON PMD 1

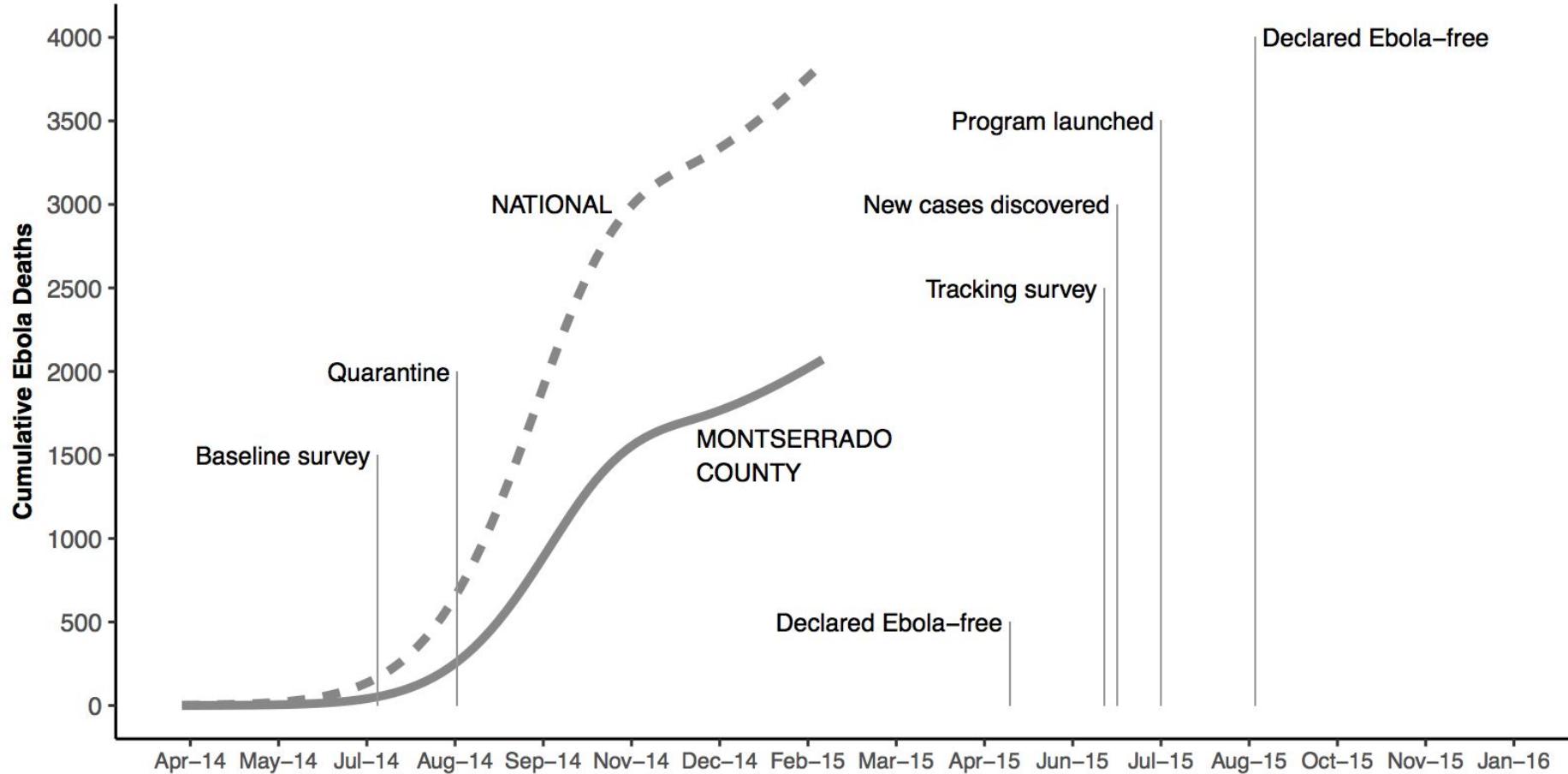
- Can we boost intervention effect sizes?
 - Revisions to strengthen evidence-based strategies?
 - Additions to increase intensity / individualized coaching?
- How will the intervention work in non-rural environments?
- What are the longer-term benefits?
- How and why does the intervention achieve outcomes?
(And why may it not reach some outcomes?)
- What is the cost effectiveness?

PMD 2 PILOT STUDY

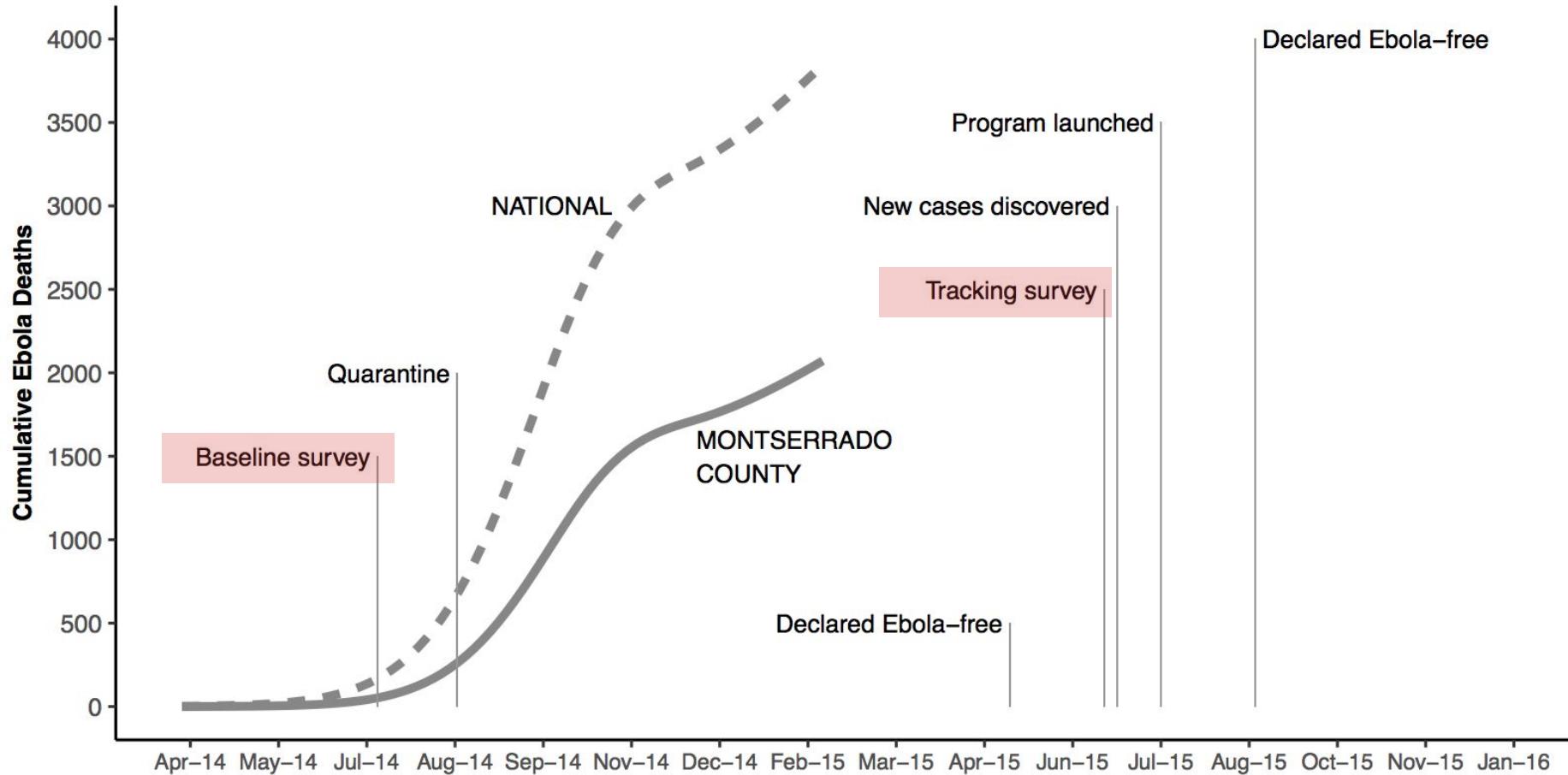
- Revise the intervention, aiming to bolster effect sizes:
 - Increase behavioral skills practice and coaching
 - Develop “PMD+”; 3 home visits for individualized coaching
- Understand barriers to implementation in an urban setting
- Revise measures



PILOT STUDY TIMELINE



PILOT STUDY TIMELINE



IMPACT OF EVD ON HARSH DISCIPLINE

- Uses data collected before and after EVD outbreak to estimate the impact of EVD exposure on implicit preferences for harsh discipline

global mental health

BRIEF REPORT

The impact of the 2014 Ebola virus disease outbreak in Liberia on parent preferences for harsh discipline practices: a quasi-experimental, pre-post design

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Global Mental Health (2016), 3, e1, page 1 of 7. doi:10.1017/gmh.2017.24

Background. This paper uses data from a cohort of parents and guardians of young children living in Monrovia, Liberia collected before and after the 2014 outbreak of Ebola virus disease (EVD) to estimate the impact of EVD exposure on implicit preferences for harsh discipline. We hypothesized that parents exposed to EVD-related sickness or death would exhibit a stronger preference for harsh discipline practices compared with non-exposed parents.

Methods. The data for this analysis come from two survey rounds conducted in Liberia as part of an intervention trial of a behavioral parenting skills intervention. Following a baseline assessment of 201 enrolled parents in July 2014, all program and study activities were suspended due to the outbreak of EVD. Following the EVD crisis, we conducted a tracking survey with parents who completed the baseline 12 months prior. In both rounds, we presented parents with 12 digital icons of a child misbehaving and asked them to indicate how they would react if they were the parent in the situation.

Results. Parents from households with reported EVD sickness or death became more 'harsh' (Glaso's delta = 1.41) in their hypothetical decision-making compared with non-exposed parents, $t(167) = -2.3$, $p < 0.05$. Parents from households that experienced EVD-related sickness or death only reported significantly more household conflict and anxiety, but also reported that their child exhibited fewer difficulties.

Conclusions. Results support the need for family-based interventions, including strategies to help parents learn alternatives to harsh punishment.

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Key words: Ebola virus disease, global mental health, Liberia parenting.

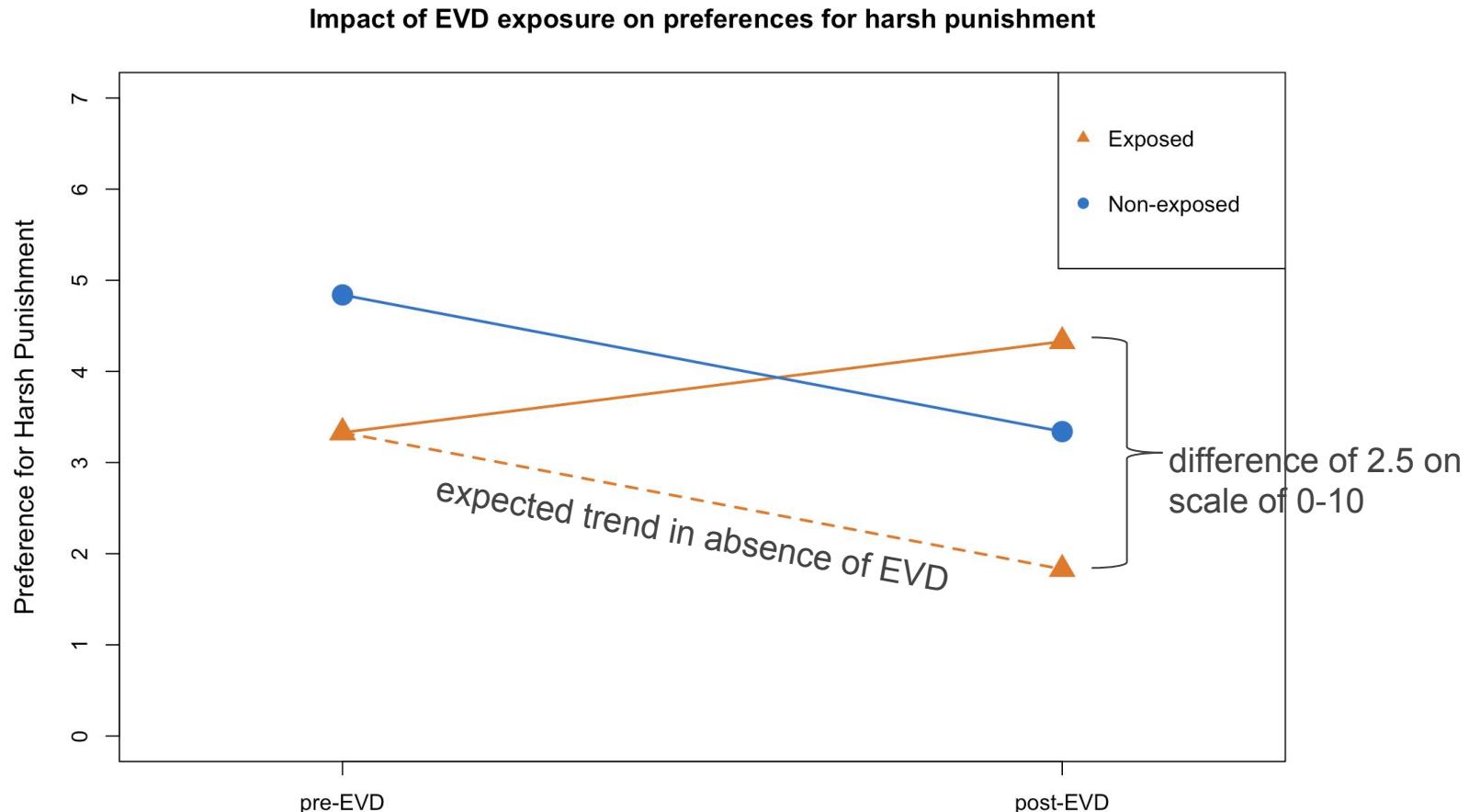
Background

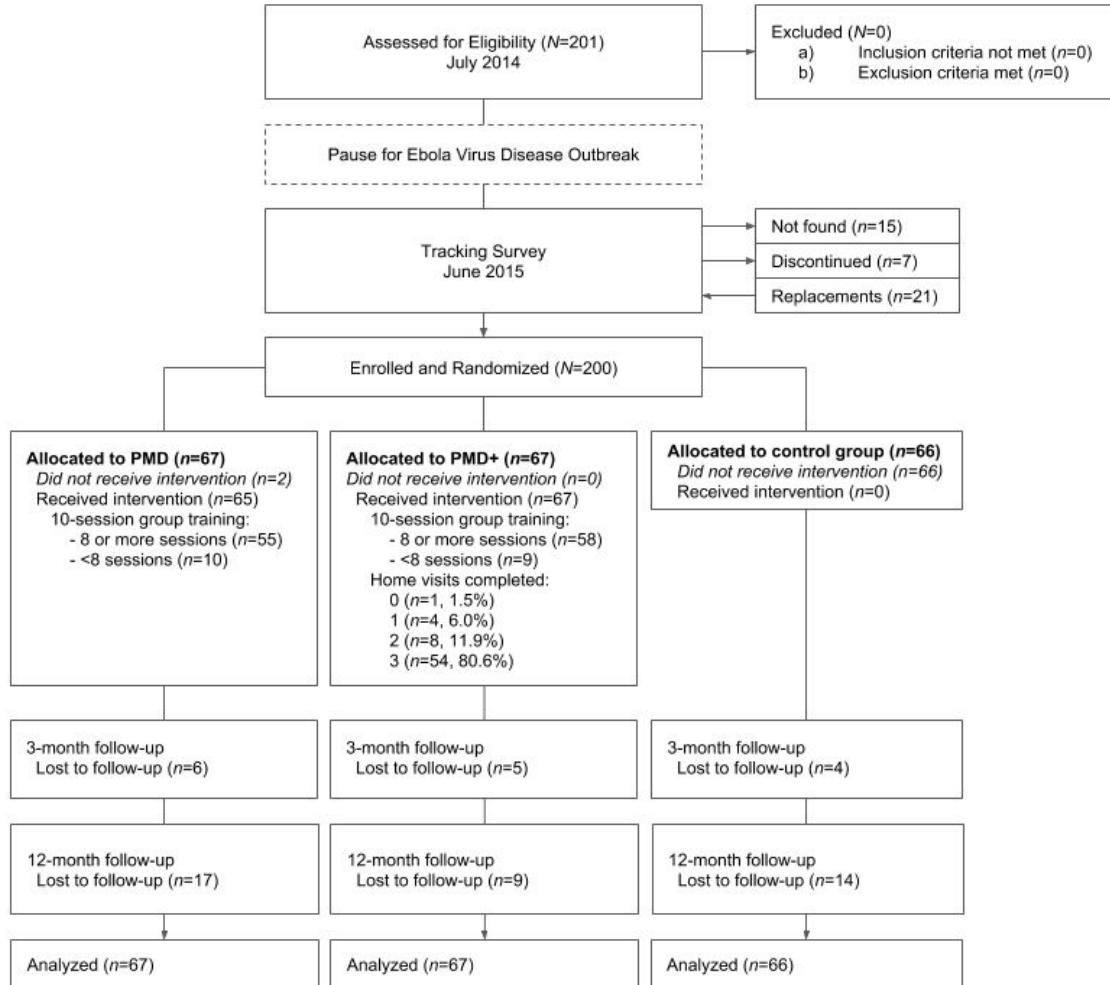
The West African Ebola virus epidemic (2013–2016) was the deadliest outbreak of the Ebola virus disease (EVD) ever recorded (CDC, 2016). More than 11 000 people in the region died (WHO, 2016), and the impact on the economies of Guinea, Liberia, and Sierra Leone has been estimated at \$2.8 billion dollars (World Bank, 2016). The effects of the epidemic will likely continue long-term. Survivors report a range of neurological and psychiatric sequelae (Howlett *et al.* 2017), and there are probably long-term psychosocial effects at the individual, community, and international

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IMPACT OF EVD ON HARSH DISCIPLINE





LESSONS FROM PMD 2 PILOT

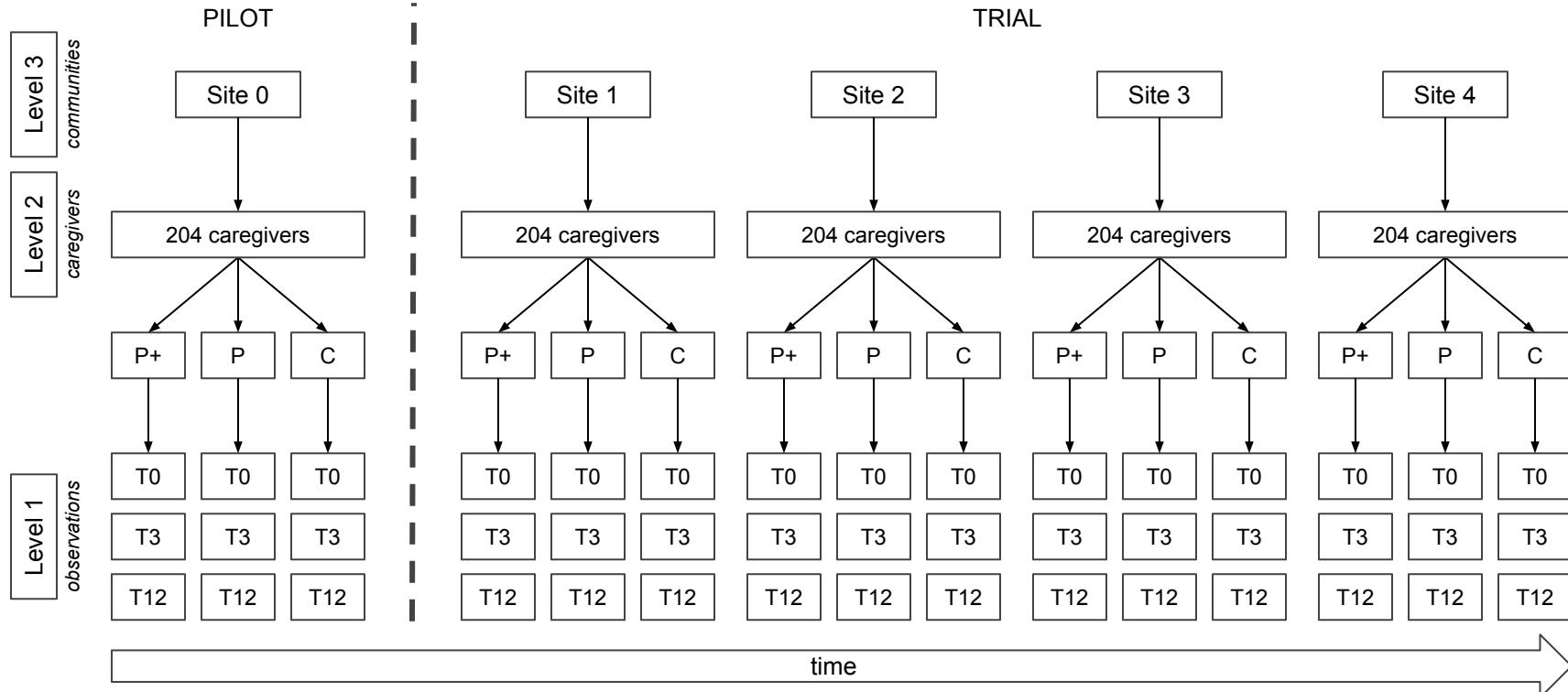
- Facilitators faced time constraints, limiting ability to spend adequate time on all material and activities
- Improved manual:
 - Simplified teaching points and added emphasis to main messages
 - Clarified instructions for in-session demonstrations and practice
 - Reduced number of activities to allow adequate time

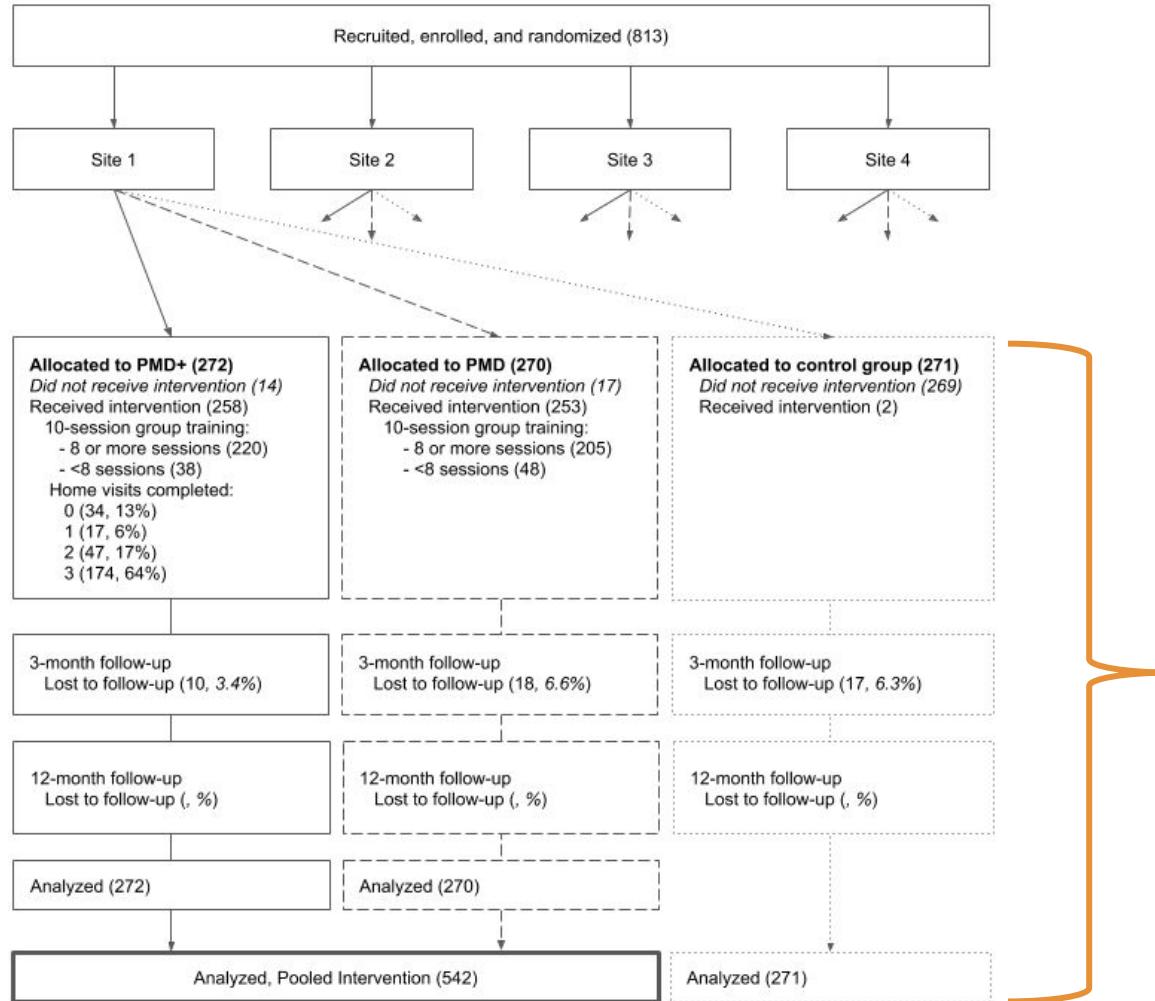
PMD 2 TRIAL RESEARCH AIMS

1. To improve and refine PMD and then conduct a replication study
2. To estimate short- (3 month) and medium-term (12-month) impacts of the program
3. To estimate the unique contribution of home visits on outcomes
4. To estimate the cost-effectiveness of home visits
5. To estimate treatment heterogeneity

PMD 2 TRIAL DESIGN

3 ARM TRIAL: CONTROL, PMD (P), PMD+HOME VISITS (P+)





Allocated to PMD+ (272)

Did not receive intervention (14)

Received intervention (258)

10-session group training:

- 8 or more sessions (220)
- <8 sessions (38)

Home visits completed:

0 (34, 13%)

1 (17, 6%)

2 (47, 17%)

3 (174, 64%)

Allocated to PMD (270)

Did not receive intervention (17)

Received intervention (253)

10-session group training:

- 8 or more sessions (205)
- <8 sessions (48)

Allocated to control group (271)

Did not receive intervention (269)

Received intervention (2)

3-month follow-up

Lost to follow-up (10, 3.4%)

3-month follow-up

Lost to follow-up (18, 6.6%)

3-month follow-up

Lost to follow-up (17, 6.3%)

12-month follow-up

Lost to follow-up (, %)

12-month follow-up

Lost to follow-up (, %)

12-month follow-up

Lost to follow-up (, %)

Analyzed (272)

Analyzed (270)

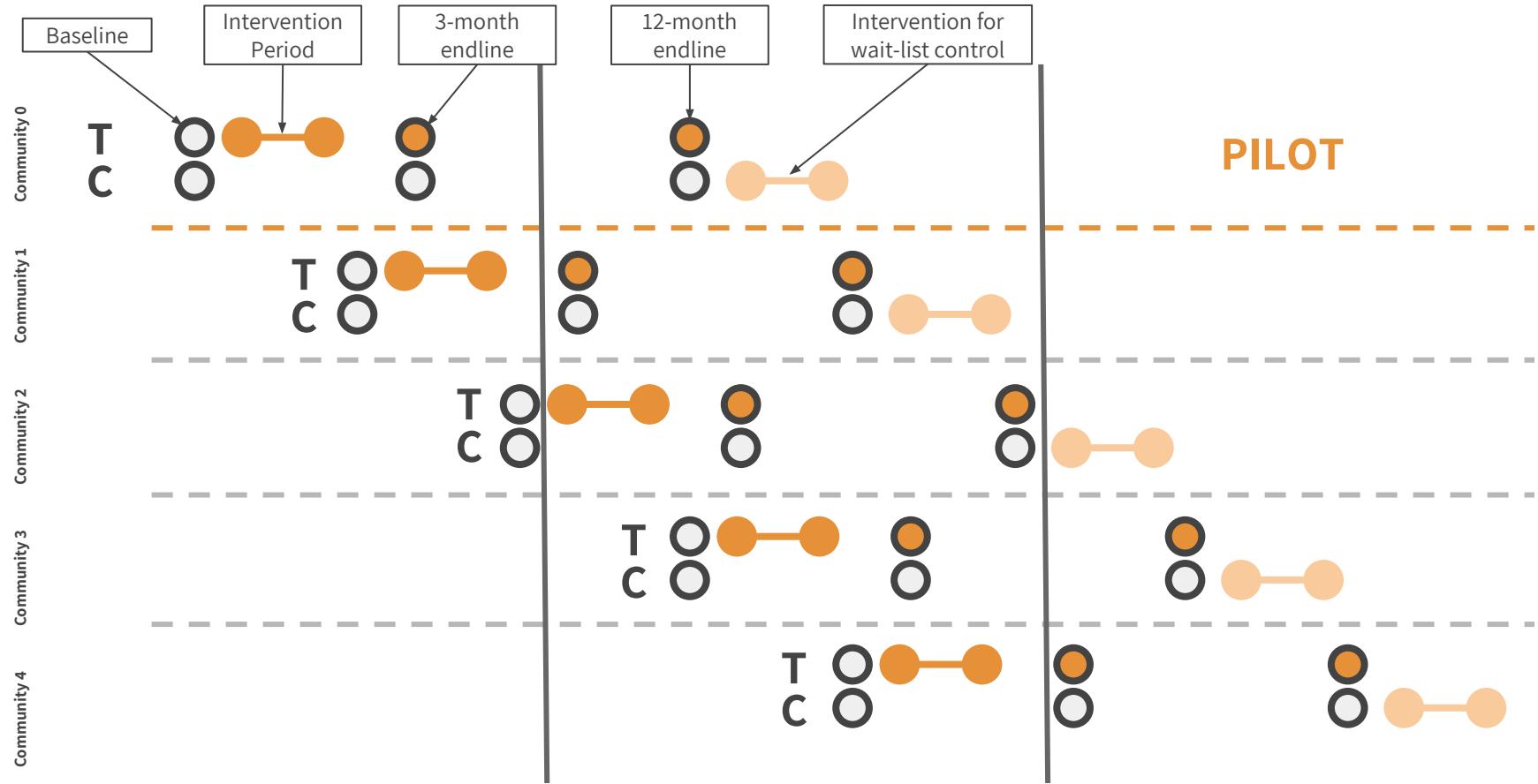
Analyzed, Pooled Intervention (542)

Analyzed (271)

2016

2017

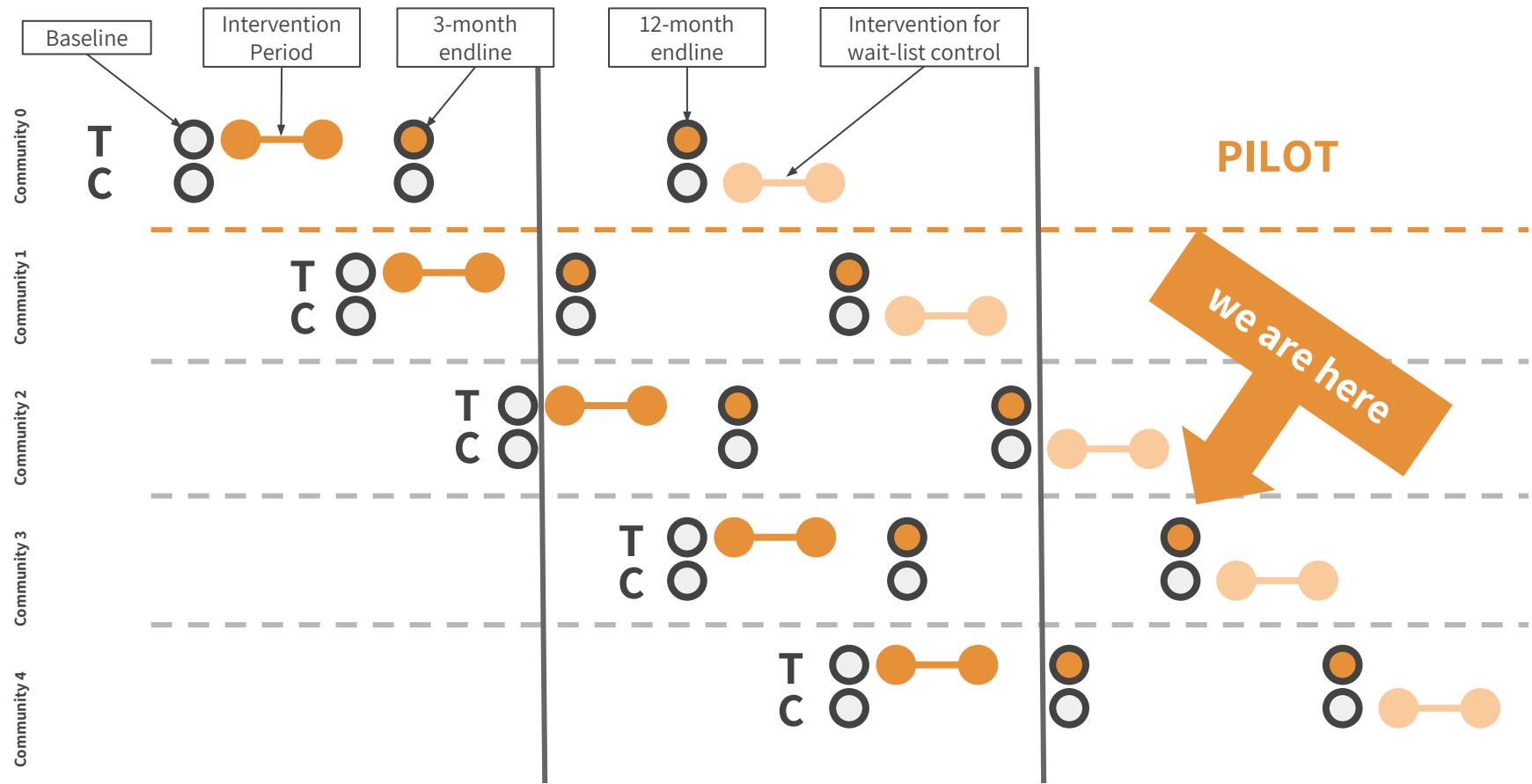
2018



2016

2017

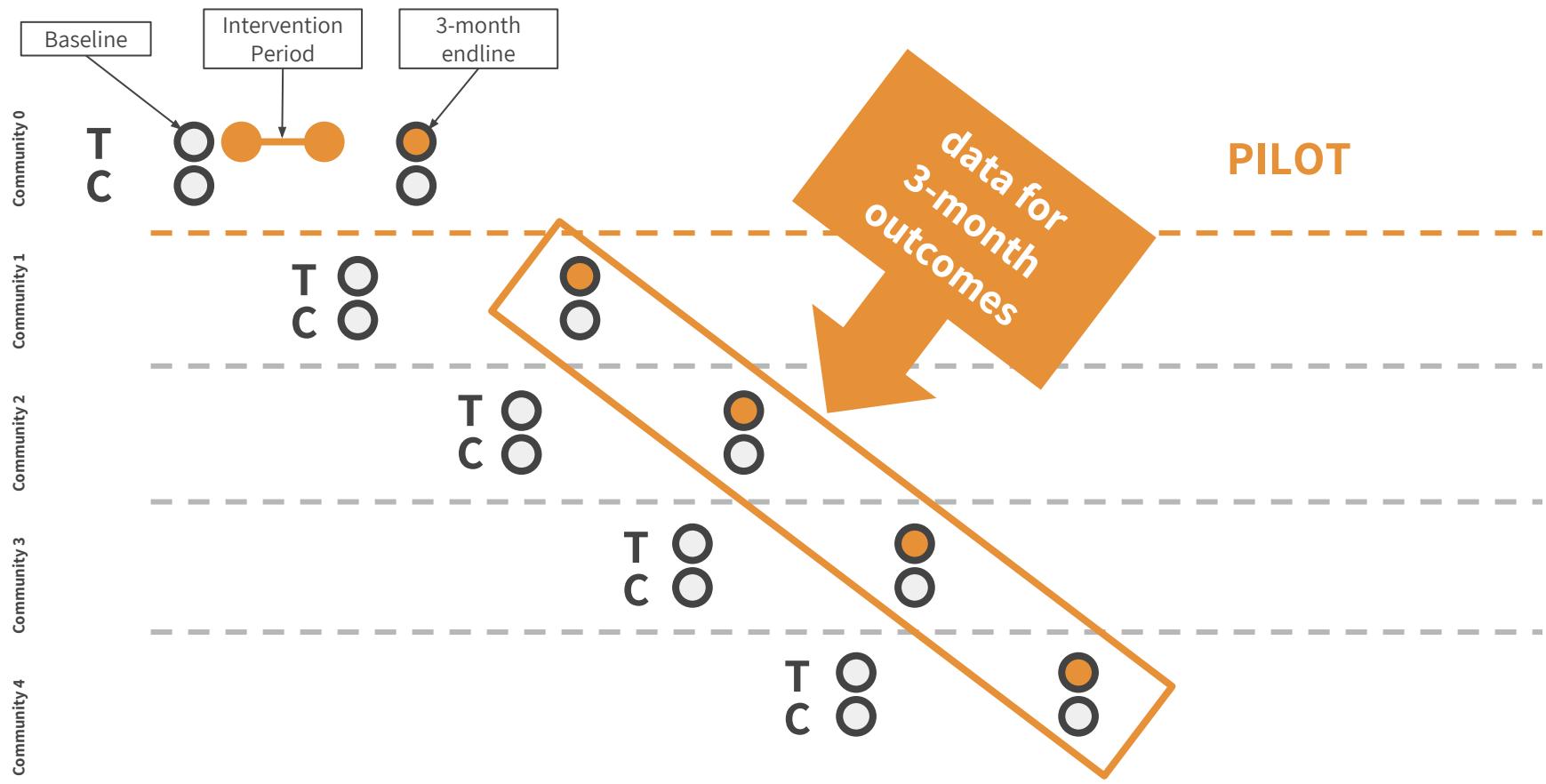
2018



2016

2017

2018



PRELIMINARY RESULTS

TRIAL PARTICIPANT CHARACTERISTICS

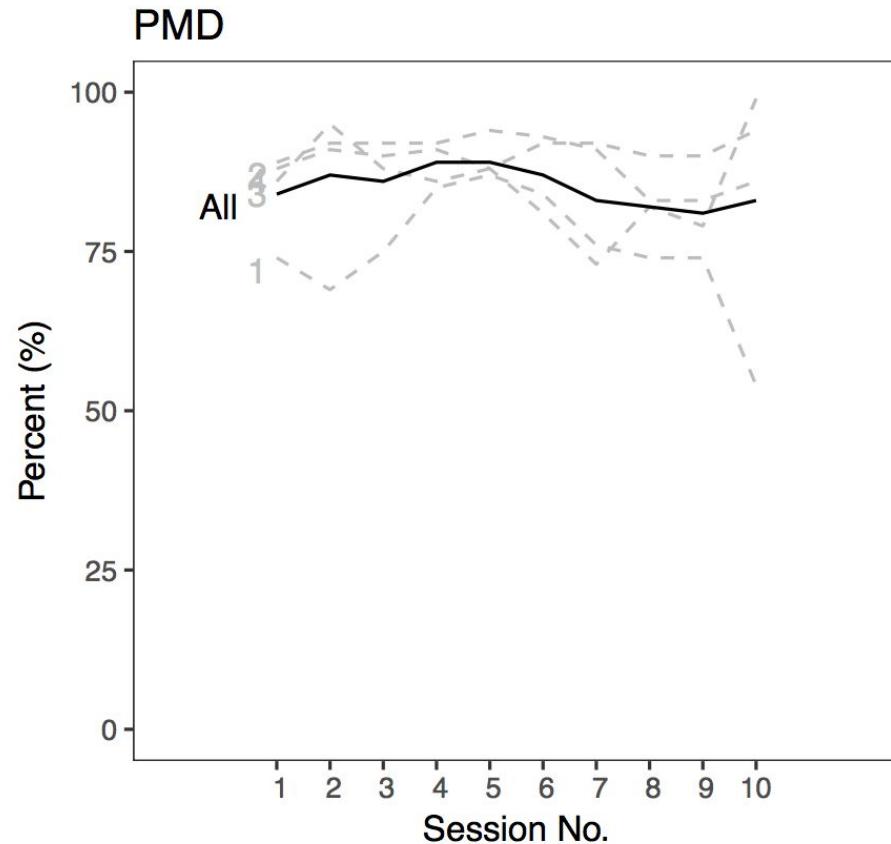
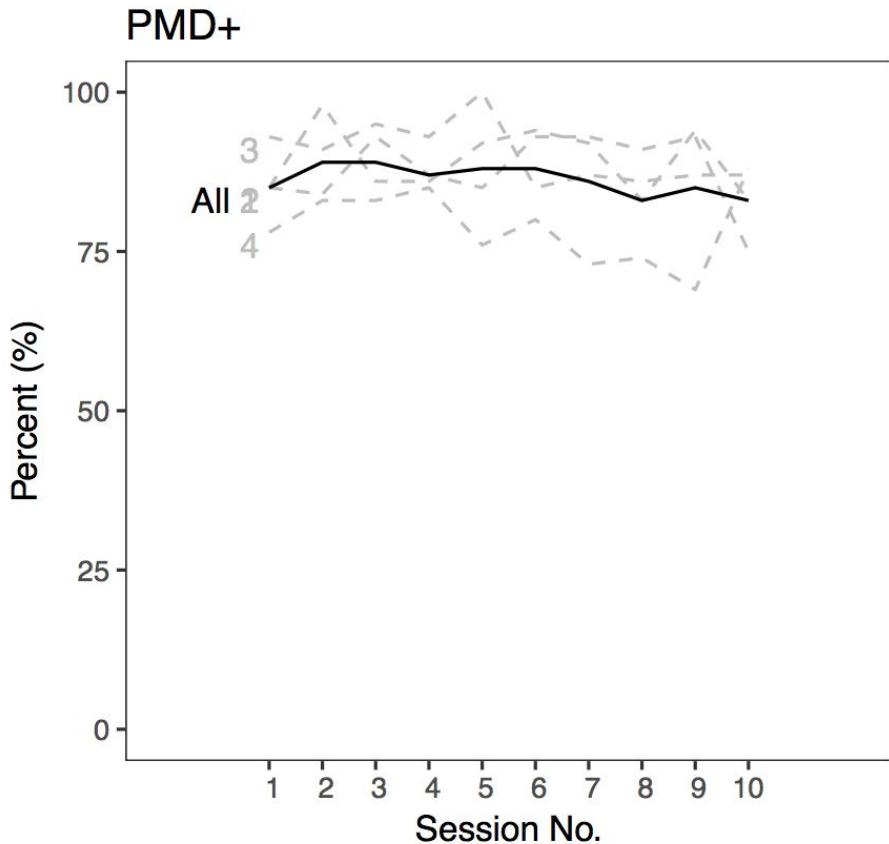
HIGHER PERCENTAGE SINGLE PARENTS COMPARED TO PMD 1 TRIAL IN LOFA

	PMD	PMD+	Control
Parents			
N	270	272	271
Female (%)	91.1	91.5	91.1
Mean Age (<i>SD</i>)	32.9 (10.0)	33.1 (9.8)	33.3 (10.1)
Completed primary (%)	6.3	9.9	11.1
Married or cohabitating (%)	52.2	54.8	53.1
Children			
N	270	272	271
Female (%)	50.7	54.8	47.6
Mean Age (<i>SD</i>)	3.6 (0.5)	3.5 (0.5)	3.5 (0.5)

90% in Lofa
trial (PMD1)

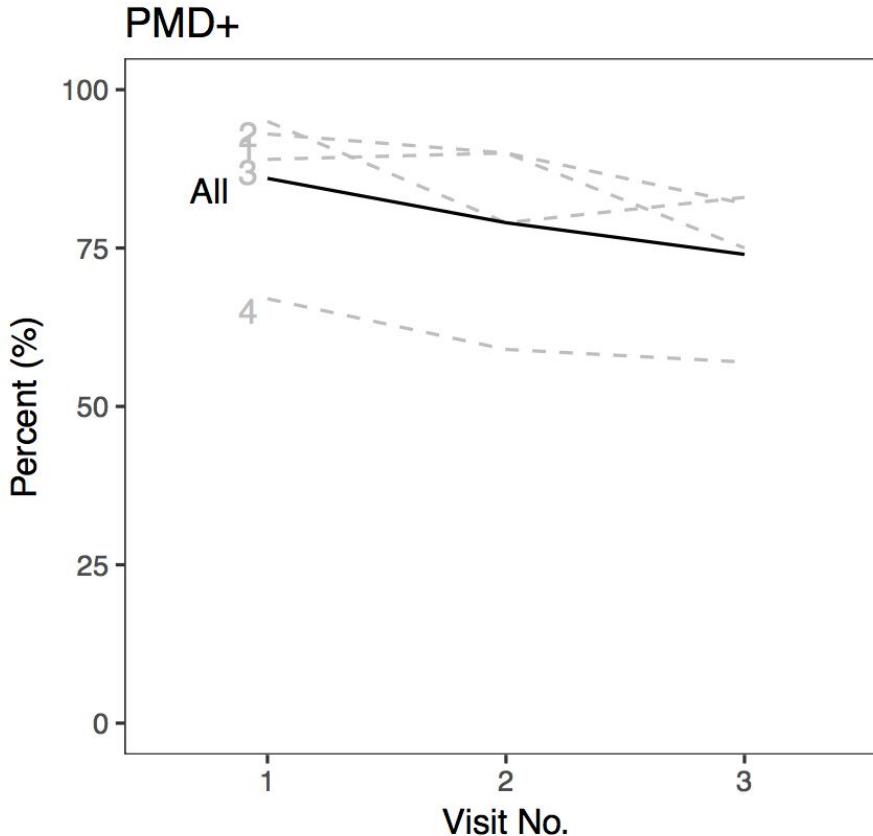
ATTENDANCE AT GROUP SESSIONS

OVERALL CONSISTENT, HIGH ATTENDANCE AT GROUP SESSIONS



HOME VISIT PARTICIPATION (PMD+)

HIGH PARTICIPATION IN HOME VISITS AS WELL



- Community 4 had lower home visit participation
- Caregivers generally harder to find at home
- Community situated near large business district

PROGRAM FIDELITY

Facilitators as well as external IRC staff observers completed detailed fidelity checklists that were specific to each session

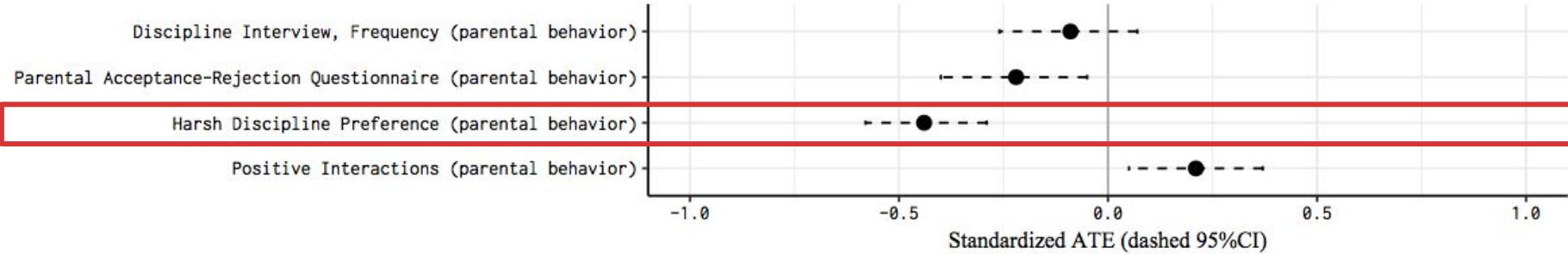
Session 1 Fidelity Checklist					
Facilitators:		Date:		Group letter:	
	Session Component	Completed? Yes / Partial / No	Notes (If Partial or No, put specific reason)	Start time	End time
1	Introduction and Welcome				
2	Parent Introduction Activity: "Make a Friend"				

PROGRAM FIDELITY

- Weekly reviews of fidelity checklists from both the facilitators and external observers suggest very **high fidelity** to the intervention content, including both completion of components and quality of implementation
- Notes recorded alongside the ratings further corroborate the completions by providing specific examples of facilitator activities and positive participant responses

PRIMARY OUTCOMES (3-MO, ITT)

46% REDUCTION IN PREFERENCE FOR HARSH DISCIPLINE



- Program led to a 46% decrease in preference for harsh discipline (similar to PMD1 finding)
- Notable that more "overt" measures showed smaller effects (possibly too easy for parents to know the "right" answers)

COVERT MEASURE OF PREFERENCES

Presented 12 digital illustrations depicting a child misbehaving.

Scenes varied on four attributes:

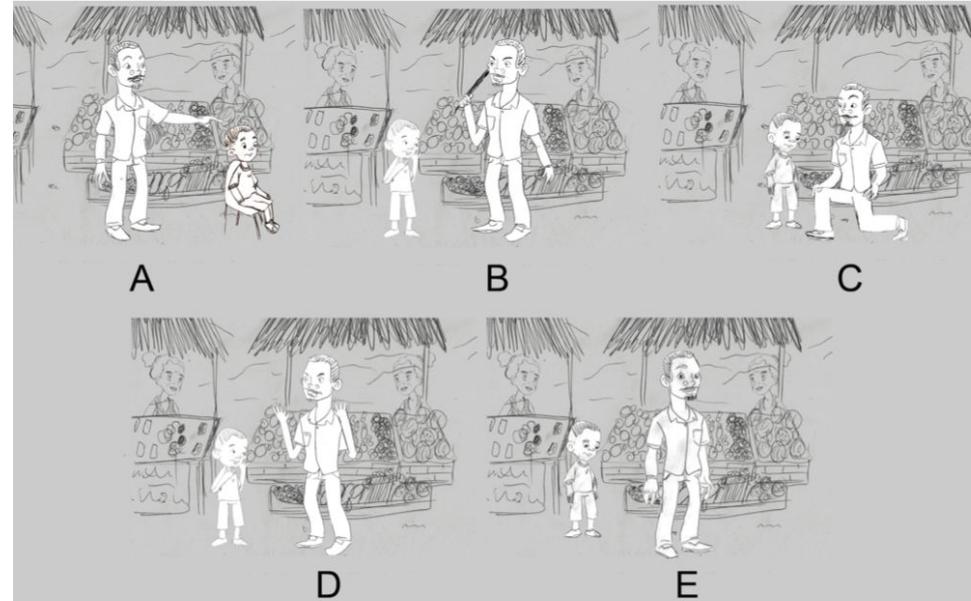
- child gender (boy, girl);
- child offense (spilling drink, whining, kicking parent);
- setting (home, market);
- number of adults present (one, two)



COVERT MEASURE OF PREFERENCES

For each scene, participants indicated how they would respond if they were the parent in the story. Response options were presented as a set of five drawings:

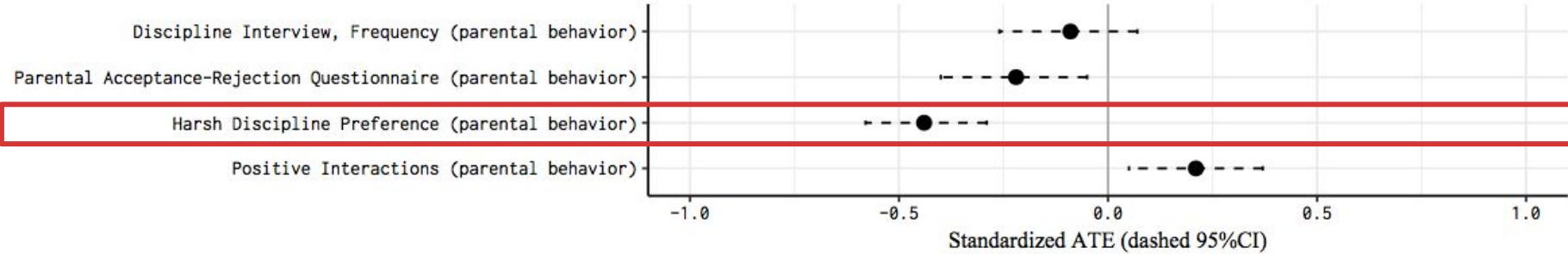
- time out
- **beating**
- discussing
- **yelling**
- ignoring





PRIMARY OUTCOMES (3-MO, ITT)

46% REDUCTION IN PREFERENCE FOR HARSH DISCIPLINE



- Program led to a 46% decrease in preference for harsh discipline (similar to PMD1 finding)
- Notable that more "overt" measures showed smaller effects (possibly too easy for parents to know the "right" answers)

PRIMARY OUTCOMES (3-MO, ITT)

INCREASE OF 0.25 STANDARD DEVIATIONS IN PARENT-CHILD POSITIVE INTERACTIONS



- Same impact on positive child-caregiver interactions as found in PMD1 in Lofa.

Potential for
"spillover" because
participants came
from densely
populated
neighborhoods and
randomization was
conducted at the
individual-level

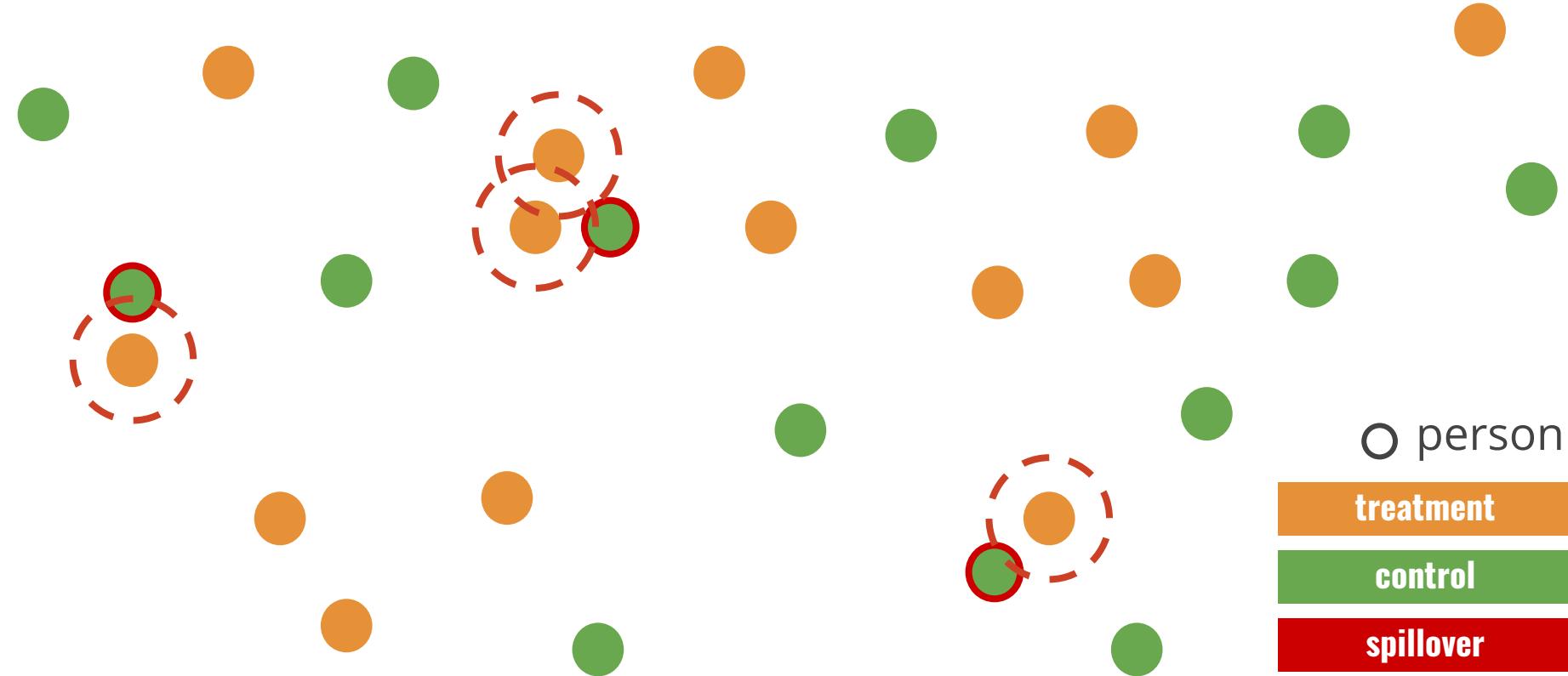
15-meter radius
shown



WHY DO WE CARE ABOUT SPILLOVER?

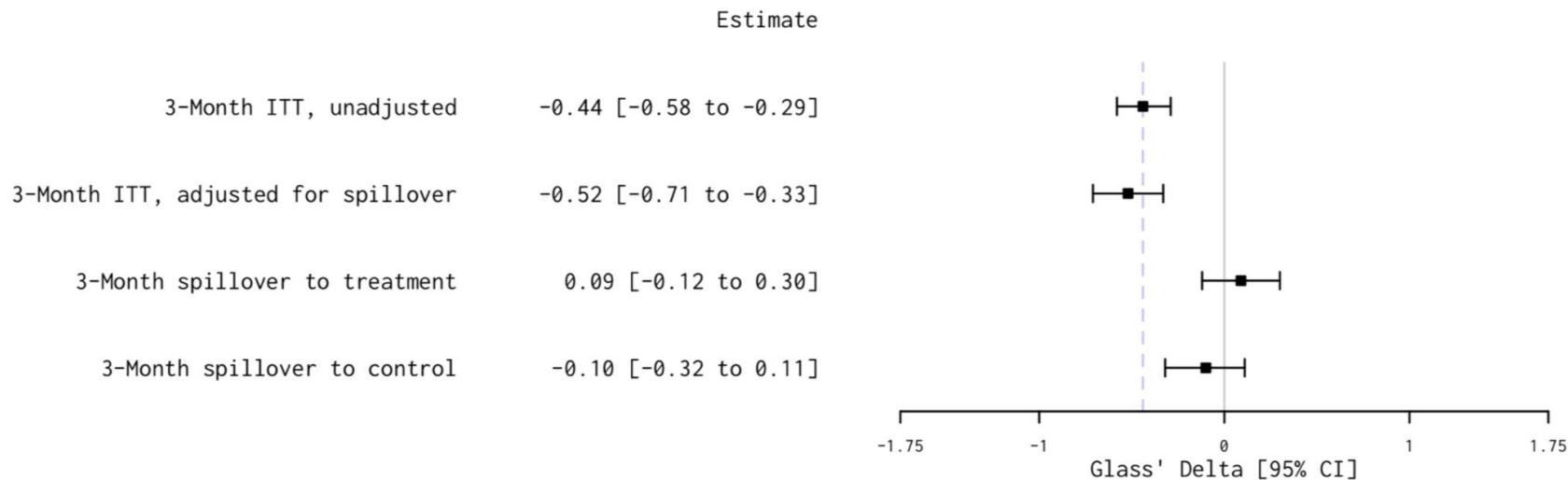
1. From a **research perspective**, we want to get as close as possible to the "right" answer. When you randomize individuals to different study arms and these individuals can interact, those assigned to the intervention arm can "contaminate" those assigned to the delayed intervention arm.
2. From a **policy perspective**, it would be good to know if there are positive indirect effects of a program. For instance, if exposing 1 person to the program benefits a neighbor's family indirectly, without being treated

SPILLOVER = INDIRECT TREATMENT



ITT ADJUSTED FOR SPILLOVER

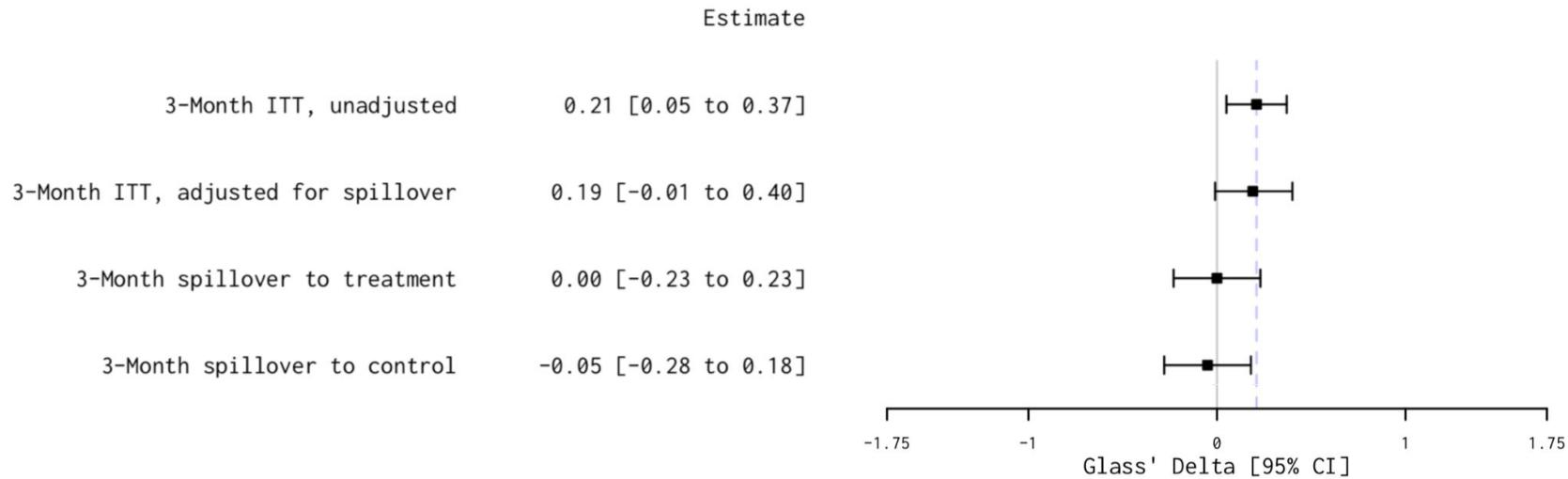
PREFERENCE FOR HARSH DISCIPLINE



- Adjusted effect size increases to 0.52 standard deviations after adjusting for spillover

ITT ADJUSTED FOR SPILLOVER

PARENT-CHILD INTERACTIONS



- No strong evidence of spillover

FOCUSING ON THE "TREATED"

NOT EVERYONE WHO WAS OFFERED PMD PARTICIPATED

Defining "**compliance**":

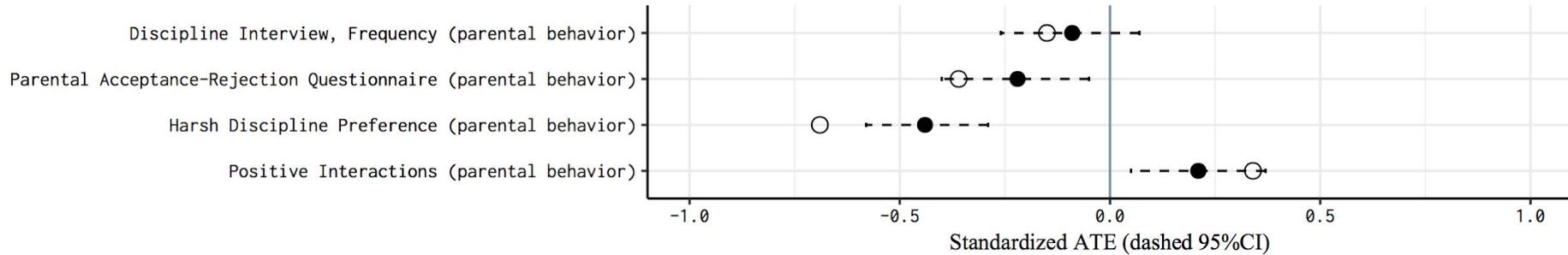
- PMD = attending 8 or more group sessions
- PMD+ = attending 8 or more group sessions and participating in 3 home visits

76% of parents assigned to PMD were "treated"

63% of parents assigned to PMD+ were "treated"

FOCUSING ON THE "TREATED"

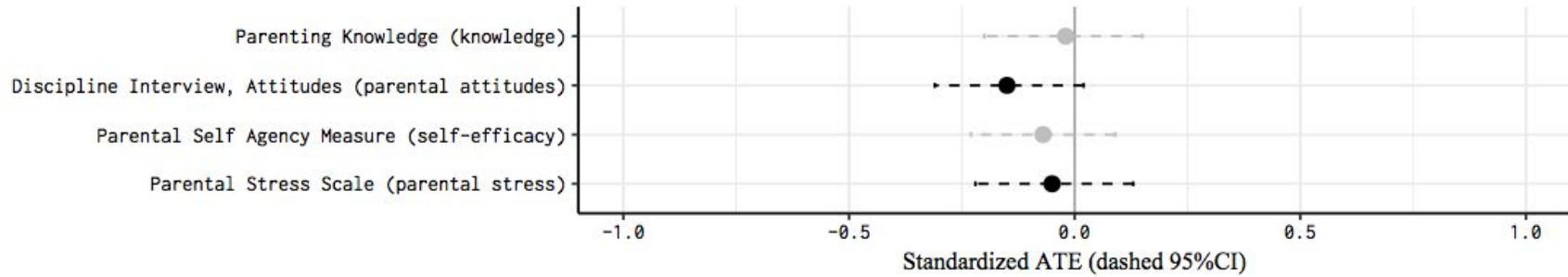
THE AVERAGE TREATMENT EFFECT ON "COMPLIERS" IS EVEN LARGER (CIRCLES)



- These estimates give a better look at the impact of actually receiving the intervention

SECONDARY SHORT-TERM OUTCOMES

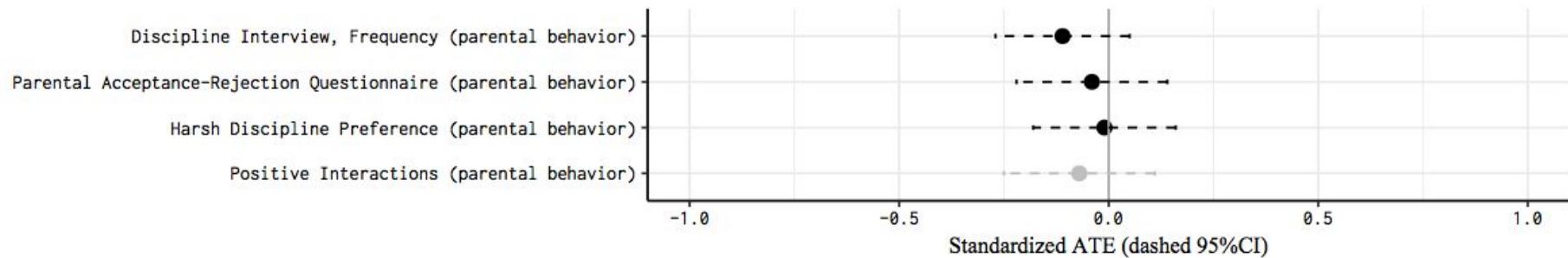
LIMITED SUPPORT FOR OTHER BENEFITS AT 3-MONTHS POST-INTERVENTION



- Some evidence that the program led to changes in parental attitudes about discipline, but no clear evidence that the program increased knowledge, reduced parental stress, or increased parents' agency
- So less support for the theory of change, but still observed primary outcomes

EFFECT OF HOME VISITS (3-MO, ITT)

THESE ESTIMATES COMPARE PMD+ v. PMD AND ISOLATE THE EFFECT OF HOME VISITS



- No strong evidence at 3-months post-intervention that the full intervention with home visits is superior to the smaller intervention package of only group sessions
- Waiting for 12-month results

PARENT INTERVIEWS

PEOPLE WERE MOTIVATED TO COME TO "LEARN HOW TO CARE FOR THEIR CHILDREN"

"After the woman explained to me, I look at it and I say 'but that good thing because some of us, one like me, I abusing my children'...I said 'this program is very important, **so let me go and learn'.**"

PARENT INTERVIEWS

PEOPLE WERE MOTIVATED TO COME TO "LEARN HOW TO CARE FOR THEIR CHILDREN"

"Yeah first when the PMD program came, some of us were living without control **especially since we started borning in our teenage years**...at least I know how to act like father these days."

PARENT INTERVIEWS

PARENTS DESCRIBED LEARNING POSITIVE ALTERNATIVE DISCIPLINE TECHNIQUES

"It was very bad because, you grab the children when they do anything, you beat them, you pepper them, you put them inside the room, you lock them out and all of those...But from the IRC program, we learned something from there—**that you don't have to do all that one. So they show us some ideas that we can use when the child hard headed**; when the child do this one...like time out and thing."

PARENT INTERVIEWS

PARENTS LEARNED HOW TO BRING CHILDREN "CLOSER TO THEM"

"PMD help me to teach my child...to be free when something bothering them—**to come and come explain it to me; that they shouldn't be afraid of me**...they should be free with me to come around me."

PARENT INTERVIEWS

PARENTS IMPROVED THEIR BASIC ROUTINE CARE, INCLUDING HANDWASHING

"The way the training came out, telling us how to take care of the children: wash their mouth before they eat, yourself have to bath, brush the children teeth in the evening to avoid toothache...They also talk about the child must wash their hands after using the toilet before you give them any food to eat. **I never used to do this;** the child just used to come from the toilet and take their food to eat."

PARENT INTERVIEWS

PARENTS ALSO USED SKILLS WITH THEIR OTHERS—NOT ONLY THEIR CHILDREN

"Like me I was having bad heart—any small things that someone do to me, I will get vex, **but since the PMD program, I am not having temper again because they used to teach us how to do things good.** If someone wrong you, how to handle the problem; how you are not supposed to address the problem with anger and so on."

CONCLUSIONS AND IMPLICATIONS

- Parents are less harsh with children
- Parents and children have closer relationships
- Parents provide better care for children's basic needs and health

This "nurturing care" is among the top 5 things children need to reach their potential.

Results may have benefits for the rest of the child's life—better mental and physical health, allowing for more successful futures.

NEXT STEPS

1. Examine "medium-term" outcomes when the trial concludes (12-months post-intervention)
2. Determine if home visits increase the effectiveness of the program, and at what financial cost
3. Analyze parent-child observational data
4. Explore treatment heterogeneity (i.e., how PMD might work differently for some families vs others; e.g., do families get more out of the program if their child has more behavioral problems to start?)
5. Examine mechanisms of change (mediation)
6. Estimate spillover to "untreated" families living nearby

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