

CIES Miami 2024

Cambodia Integrated Early Childhood Development Activity

Baseline Data from a Longitudinal Study

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Funded by:



USAID
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Implemented by:





Overview of Cambodia IECD

Key Features of Program Intervention



- Aims to promote thriving among Cambodian children under 5 in two provinces.
- Program elements:
 1. Responsive Caregiving
 2. Nutrition/IYCF and Agricultural Production
 3. Identification and Support of Children with Developmental Delays and Disabilities
 4. *Sanitation and Hygiene (latrines and piped water)
- Multi-sectoral, in collaboration with multiple ministries of the Royal Government of Cambodia (RGC)
- Multi-platform
 - Community-level activities/SBC
 - Group sessions for caregivers
 - Home visits
- Implementation in three staggered cohorts

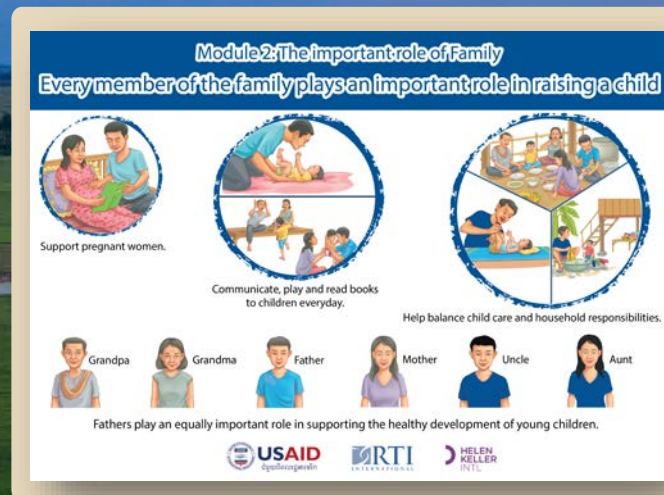
Nurturing Care Group Session



Master Training on Nurturing Care



Examples of IECD materials



Module 5: Child Development
Child Development Milestone Chart
Birth to Five years old

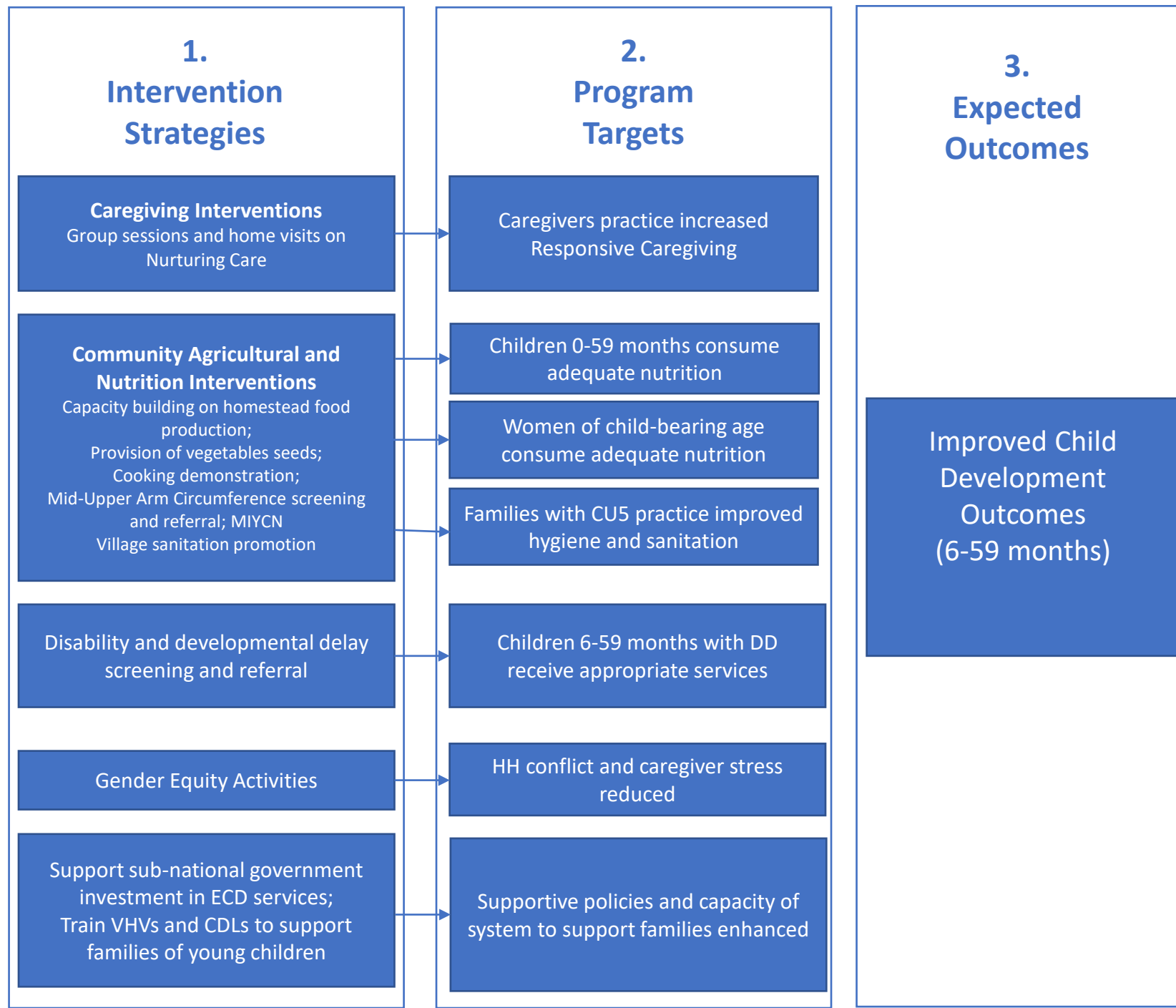
	Birth-3 months	3-6 months	6-1 year	1-2 years	2-3 years	3-4 years	4-5 years
Physical	I can lift my head	I can roll over	I can sit up and try to move	I start walking without help	I can climb and dance	I can kick and throw	I can run fast and jump
Social Emotional	I need and trust you	I can show my feelings in different ways	I like familiar people best	I enjoy play with adults	I enjoy playing with other children	I am learning how to share	I am learning how to make friends
Cognitive How I learn?	I look at faces and smile	I like to hold things	I like to explore the environment	I like to move and play with toys	I learn from new experiences	I learn through play	I like to solve problems
Language	I make noises and listen	I can make sounds and respond to sounds	I begin using words	I can put words together	I like when you read me books and teach me new words	I can have a conversation	I love to talk with you

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IECD Theory of Change

For guidance on ECDE theories of change, see: Schindler, HS, McCoy DC, Fisher, PA, Shonkoff, JP. 2019. A historical look at theories of change in early childhood education research. ECRQ.



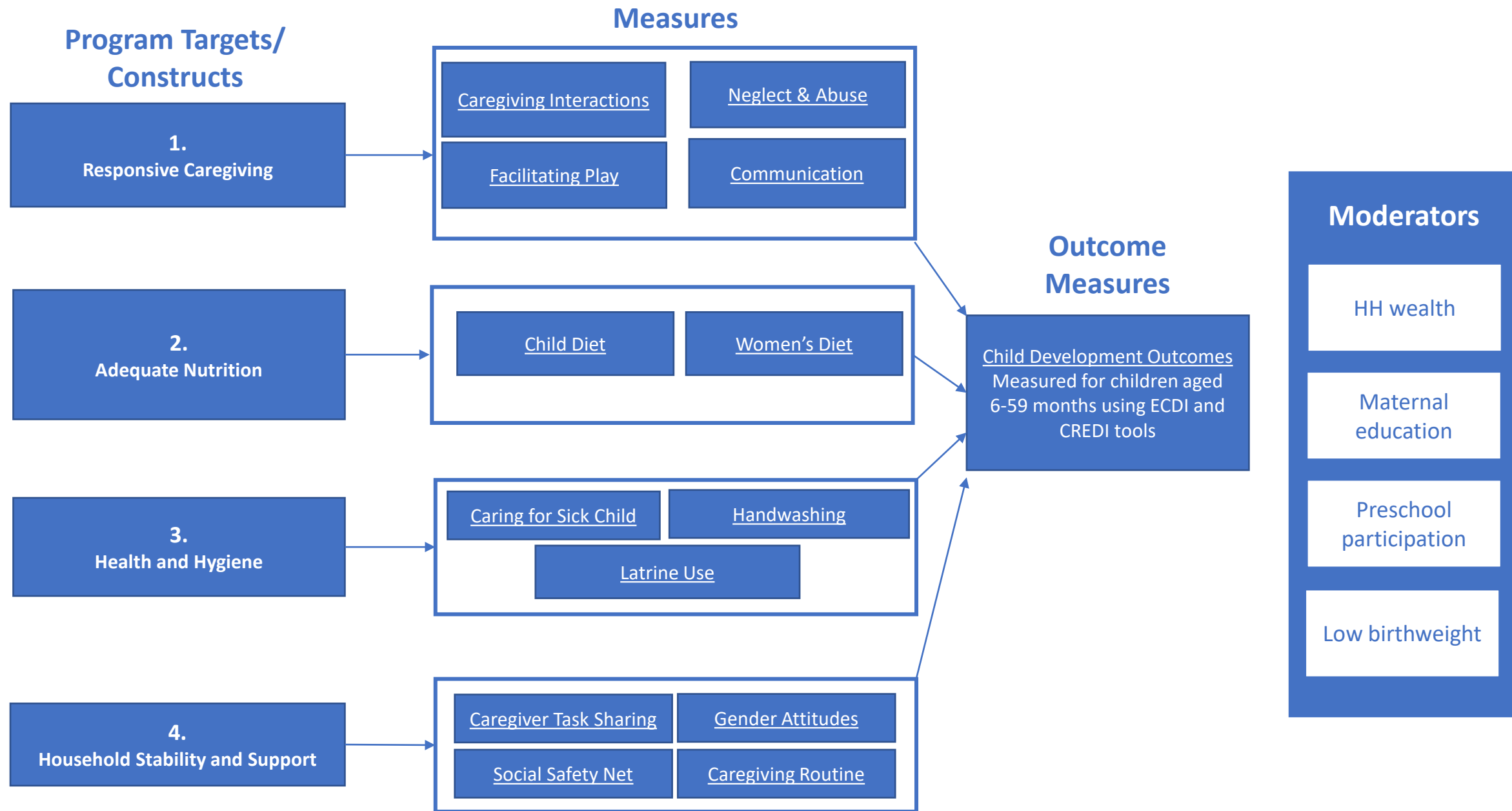


Longitudinal Study

Study Aims

- To provide baseline data for key indicators
- To inform program design
- To explore associations between caregiving and child outcomes





Study Design

- Modified randomized cluster step wedge design (see Hargreaves et al., 2015, and Grayling, Wason and Mander, 2017), with longitudinal tracking of participants
- Implementation in 345 villages in three cohorts, treated sequentially for approx. 15 months
- Four waves of data collection planned
- Population:
 - Pregnant women
 - Caregivers of children under 59 months
 - Caregivers may be men or women
 - Caregivers must be at least 18 years old and share a primary residence with at least one child under 59 months

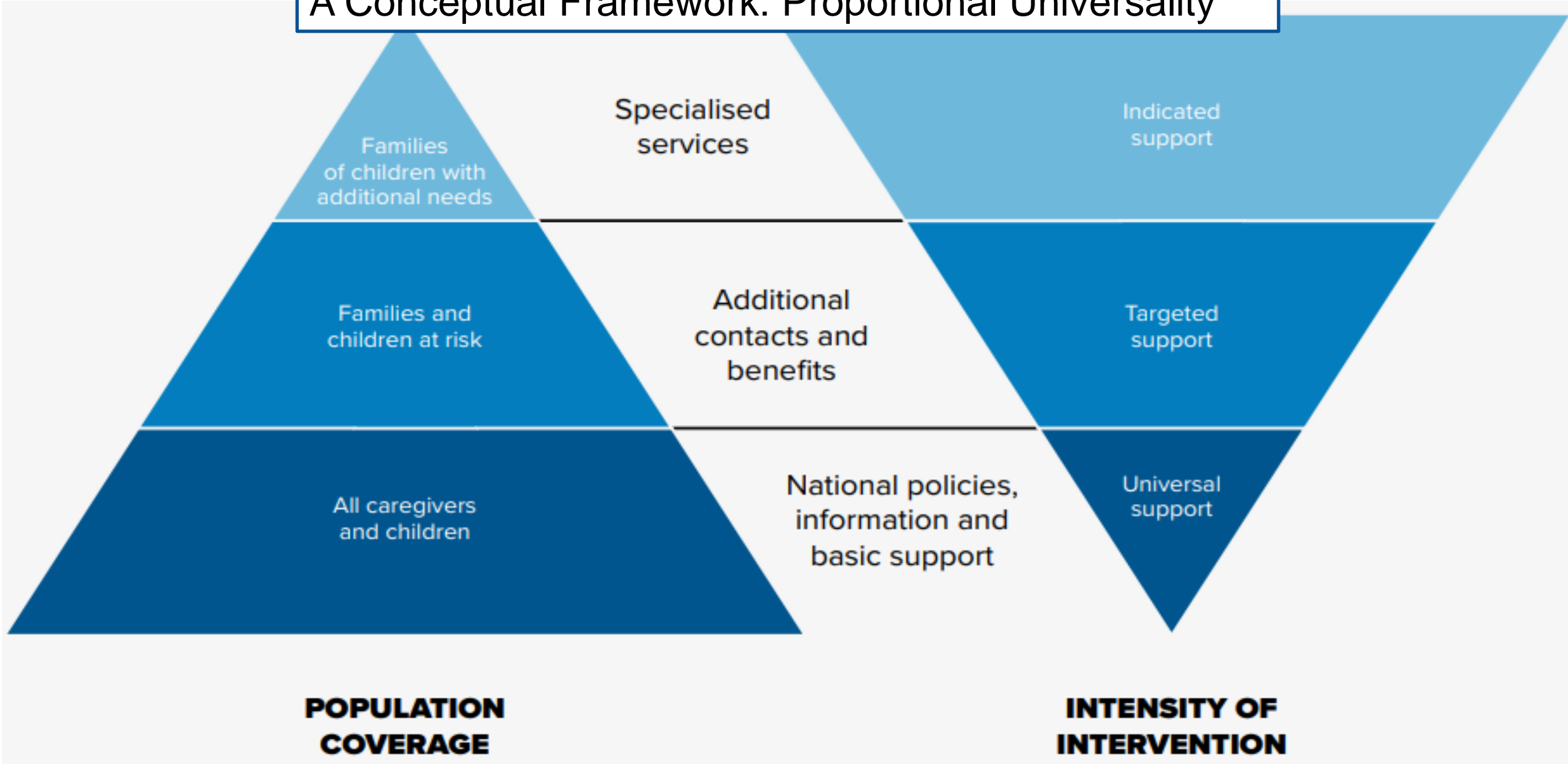
Data Collection Waves	Cohort 1 (75 villages)	Cohort 2 (135 villages)	Cohort 3 (135 villages)	Total Villages
Wave 1	True Baseline	Comparison Baseline	Comparison Baseline	345
Wave 2	True Endline	True Baseline	Comparison Baseline	345
Wave 3	Follow-up #1	True Endline	True Baseline	345
Wave 4	Follow-up #2	Follow-up #1	True Endline	345

Village Selection

- Purposeful selection of villages.
 - Criteria: geographic clustering, number of households with children under 5 years old, agricultural diversity (for crop production) and the presence of other donor-funded programs that are complementary with IECD.
- IECD and RCG officials purposefully selected 75 villages for Cohort 1 (non-random).
- IECD randomly assigned the remaining 270 pre-selected villages into Cohorts 2 and 3, in two equal randomized groups of 135.

Because the selection of villages from within each Province was not random, the findings cannot be extrapolated to elsewhere.

A Conceptual Framework: Proportional Universality



What IECD's pyramid looks like...

CWD - Most resources per household

Group-based activities

IECD - Limited population level activities (e.g., BCC, community-level events, gov't capacity building)

Families of children with additional needs

Families and children at risk

Specialised services

Additional contacts and benefits

National policies, information and basic support

Indicated support

Targeted support

Universal support

POPULATION COVERAGE

INTENSITY OF INTERVENTION

Instruments

Intervention Target Measures

- **Family Care Indicators**, developed to measure home stimulation in large populations; derived from the Home Observations for Measurement of the Environment (HOME).
- **IECD Caregiver Key Behaviors**, created by the IECD team to gather information about the behaviors targeted by the program.
- **Women's diet and children's diet**, from the WHO, minimum acceptable diet for children 6-23 months, and minimum dietary diversity for women of reproductive age administered in an interview with the caregiver

Outcome Measures

- **Caregiver Reported Early Development Instrument (CREDI)** an internationally used tool for children aged 0-36 months, contains 20 items (per age sub-group), and is administered in an interview with a caregiver. Dropped 0-5-month-old data.
- **Early Childhood Development Index (ECDI 2030)**, UNICEF tool capturing 3 domains of ECD and 12 sub-domains, for children aged 37-59 months, contains 20 items (per age sub-group).



Findings: Demographic Characteristics

- 99% of caregivers (self-identified) are female
 - Average age 31 years old
 - 90%+ married or co-habiting
 - 32.5% cannot read or write
 - Highest level of education completed for the majority is primary school
 - Most identify occupation as housewife or farmer
- Household wealth measure – ID Poor
- Child measures
 - About 10% born pre-term and 7% low birthweight (<2.5KG), per “pink card” (missing data)
 - 5.7% of caregivers report that their child currently attends or has attended preschool or other group care

Associations: Demographics & Child Outcomes

- If the caregiver completed primary school, his/her child scores on average 0.55 points higher on the ECDI*
- If the caregiver completed secondary school or more, his/her child scores on average 1.49 points higher on the ECDI***
- If the child has attended preschool, daycare or other group care, he/she scores on average 1.18 points higher on the ECDI*** (and yet preschool participation rates seem to be low)



Associations: Caregiving and child outcomes



Women's diet and children's diet did not have a clear consistent relationship with child outcomes, although there were indications in favor of certain food groups

The Family Care Indicators turned out to be the best of all our measures at predicting child outcomes on the ECDI

A Closer Look at the Power of Caregiving Behaviors

Family Care Indicator	Average impact on children's ECDI score among caregivers responding "yes"
"In the past three days, did you or any household member over 15 years of age:	
...read books or look at picture books with child?"	0.74**
...tell stories to child?"	1.05**
...sing songs with child?"	1.33***
...play with child?"	0.72*
...spend time with child naming, counting and/or drawing things?"	1.00***
IECD Key Behavior Questionnaire	
"In the last three days, I used play to help my child learn numbers and develop language."	1.53***

*=p<0.05, **=p<0.01, ***=p<0.001

Reflection and Learning

- Caregiving is linked to child development outcomes, regardless of typical barriers; ECD interventions can be a pro-equity policy
- Measures of caregiving are important, but there is no consensus about how to measure caregiving.
 - These findings support the use of the Family Care Indicators as a measure linked to child outcomes
- This is a mountain of data! Continuing to analyze it in different ways to see what we can learn.



Research Design Challenges

- Challenges with CREDI data
- Difficult to use as an impact evaluation
 - Low proportion of population coverage
 - Intent to Treat study design
 - 1,500 sample size means limited power to detect change – designed to detect 10 percentage point change in behavior
 - Samples get smaller with disaggregation of child outcome data
- Inconsistent participation among members of household
 - Complex family systems cannot be captured by measuring just one caregiver



For more details on the methodology, please see our protocol paper, which was published in *Pediatrics*, in May 2023.

Integrated Early Childhood Development in Cambodia: Protocol of a Cluster Stepped-Wedge Trial

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abstract

OBJECTIVES: Limited evidence is available on mechanisms linking integrated, multisector interventions with early childhood development. The Integrated Early Childhood Development program aims to improve children's development by promoting targeted caregiving behaviors beginning prenatally through age 5 years, in partnership with the Royal Government of Cambodia.

METHODS: This cluster stepped-wedge trial is being conducted in Cambodia among 3 cohorts, encompassing 339 villages and 1790 caregivers who are pregnant or caring for a child aged <5 years. The 12- to 15-month intervention is delivered to each cohort using a staggered stepped-wedge design. Among all cohorts, enrollment evaluations will be followed by 3 data collection waves. Targeted caregiving interventions are provided through community, group, and home-visiting platforms. Child development is measured using the Caregiver Reported Early Development Instrument and the Early Childhood Development Index 2030. The evaluation assesses mediation through targeted caregiving behaviors: responsive caregiving, nutrition, health and hygiene, and household stability and support; moderation by household wealth, caregiver education, and child birth weight; and sustainability after the intervention concludes.

CONCLUSIONS: This protocol article describes the plans for a cluster randomized controlled trial to measure the impact of an integrated, multisector intervention on children's development. By partnering with the Royal Government of Cambodia and addressing intervention pathways and moderators, this trial will provide guidance for policies and programs to promote early childhood development using principles of implementation science and equity, including increased investment for vulnerable families.



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Ms King co-conceived the study, served as principal investigator, oversaw all aspects of the study, interpreted the data, wrote pieces of the article, and coordinated the preparation of the article; Mr Yeng contributed to the study design, led data collection, conducted data management, wrote pieces of the article, and provided critical comments to the article; Ms Brennan conducted data management, interpreted the data, wrote pieces of the article, and provided critical comments to the article; Mr Creel conducted data analysis, interpreted the data, wrote pieces of the article, and provided critical comments to the article; Mr Ames oversaw implementation, collaborated with representatives of the Royal Government of Cambodia, wrote pieces of the article, and provided critical comments to the article; Ms Cotes wrote pieces of the article and provided critical comments to the article; Dr Bann contributed to data analysis and provided critical comments to the article; Dr Black contributed to the study design, interpreted the data, wrote pieces of the article, and coordinated the preparation of the article; and all authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

This study is registered at ClinicalTrials.gov, #NCT05197985, <https://clinicaltrials.gov/ct2/show/NCT05197985>. The data sets used and/or analyzed during the current study are available from the corresponding author on reasonable request. Deidentified individual participant data (including data dictionaries) will be made available. Researchers should provide a methodologically sound proposal for use in achieving the goals of the approved proposal. Proposals should be submitted to kmking@rti.org.

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Royal Government of Cambodia collaborators

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Photography

All photos in this presentation were taken by Mr. Chetra Ten, with informed written consent of subject or guardian (if child).

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