

Lessons Learned from Cost-Effectiveness Research for Specialized Nutritious Food Assistance in West Africa

Ye Shen¹, Devika J. Suri¹, Stephen A. Vosti², Breanne Langlois¹, Ilana Cliffer¹, Stacy Griswold¹, Patrick Webb¹, and Beatrice L. Rogers¹

¹ Tufts University, Boston, MA USA ² University of California-Davis, Davis, CA USA

Please send any comments/ inquiries to Ye Shen via Ye.Shen@tufts.edu. For more about the Food Aid Quality Review (FAQR) Project, visit www.foodaidquality.org

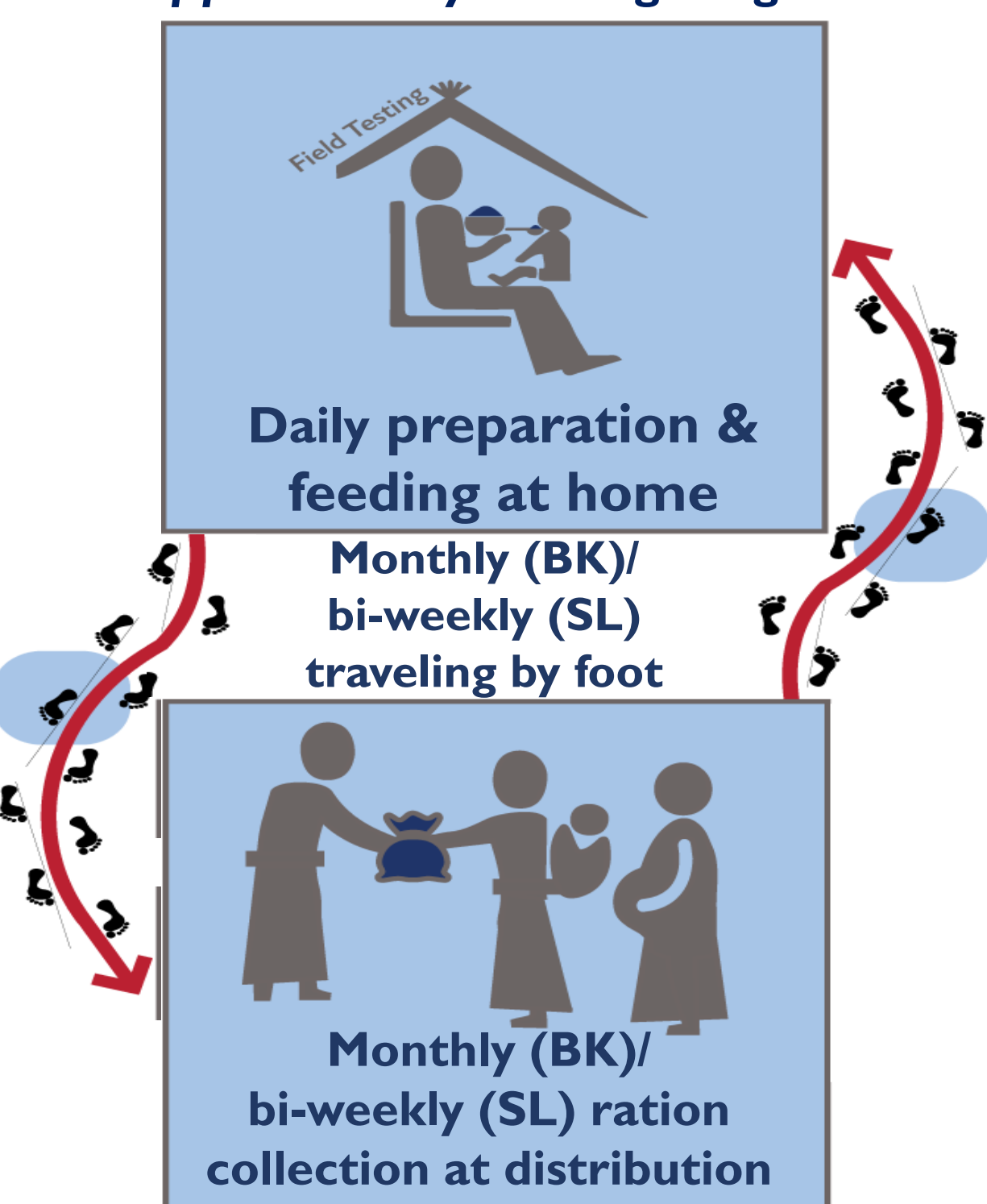
Background & Objective

- Burden of stunting and wasting remains high globally, but resources are limited for nutrition interventions targeting infant and young children at risk. Robust cost-effectiveness evidence is important for programming decisions, but literature is sparse on cost-effectiveness of specialized nutritious foods (SNFs) in supplementary feeding programs.
- As part of the Food Aid Quality Review (FAQR) Project, we conducted two field studies to evaluate the comparative cost-effectiveness of four specialized nutritious foods:
 - to prevent stunting and wasting in a blanket supplementary feeding program for children 6-23mo in Burkina Faso (BK)
 - Completed with methods and results presented in this poster.
 - to treat moderate acute malnutrition (MAM) in a targeted supplementary feeding program for children 6-59mo in Sierra Leone (SL)
 - Ongoing with only methods presented in this poster.

Study Design

- | | |
|--|--|
| <p>Burkina Faso (BK)</p> <ul style="list-style-type: none"> 48 food distribution points in Sanmatenga Province Existing Title II USAID supplementary feeding program (VIM) targeting pregnant and lactating mothers and children (could not capture start-up costs) Four geographic regions randomly assigned to one of four iso-caloric study arms Enrolled 6,092 children at ~6 months old Monthly food distribution and anthropometric measurements for 18 months with additional data collection at households, communities and other relevant venues. | <p>Sierra Leone (SL)</p> <ul style="list-style-type: none"> 28 Health Clinics in Pujehun District New supplementary feeding program for treatment of MAM in the district (could capture start-up costs) 28 clusters (clinic catchment areas) randomly assigned to one of four iso-caloric study arms Enrolled 2,686 children with MAM Bi-weekly food distribution and anthropometric measurements at clinics until recovery for up to 12 weeks with additional data collection at households, communities and other relevant venues. |
|--|--|

Caregivers' Perspective to Participate in the Supplementary Feeding Programs:



Study Foods (Comparators)

- Arm 1 CSB+:** Corn Soy Blend Plus + Fortified oil
- Arm 2 CSWB:** Corn Soy Whey Blend + Fortified oil
- Arm 3 SC+*:** SUPER CEREAL plus + Fortified oil
* In contrast to the product used in Burkina Faso, the Sierra Leone study used a newer version of SC+ with amylase.
- Arm 4 RUSF:** Ready-to-Use Supplementary Food

Costing Methods

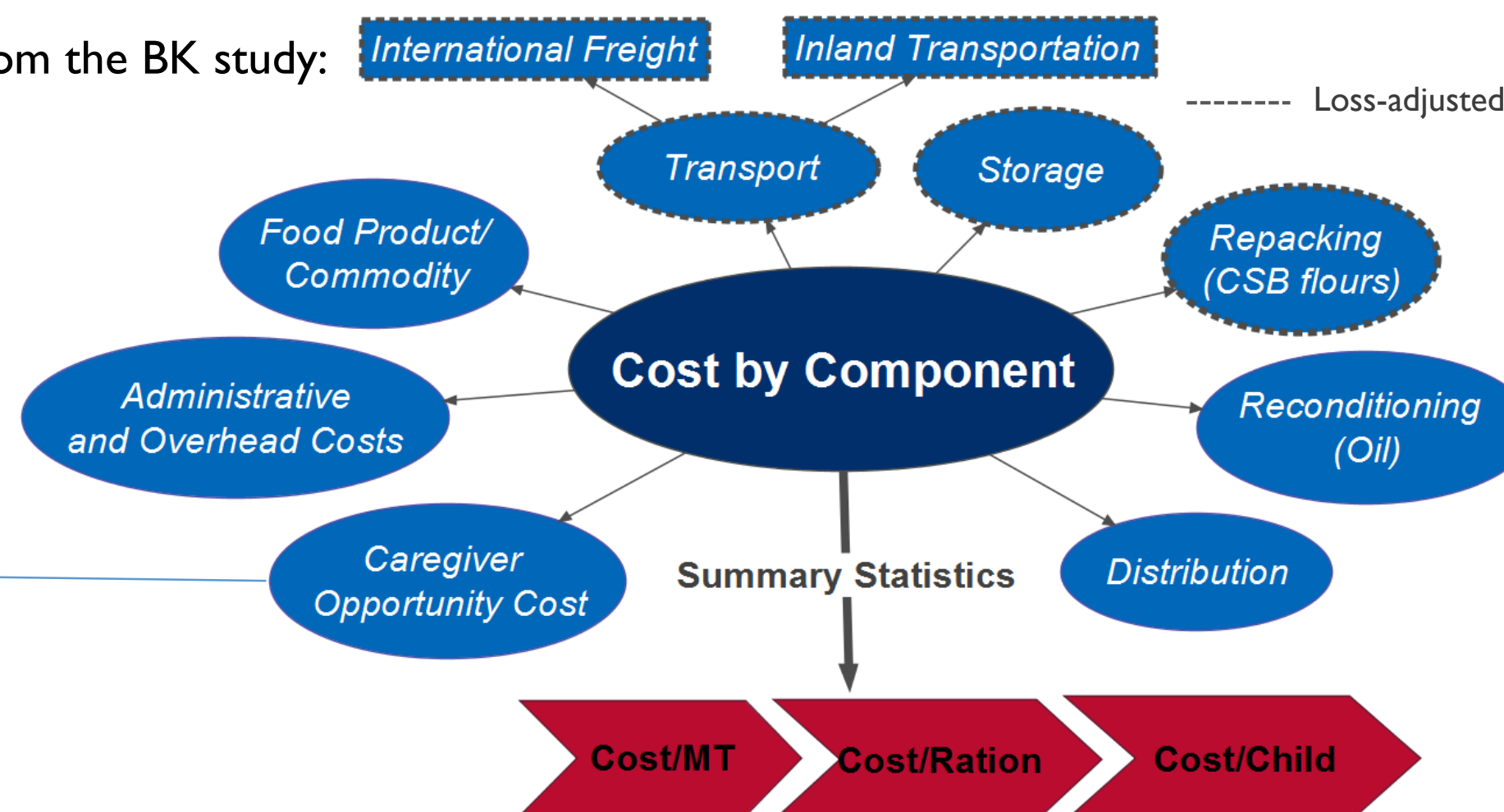
- Activity Based Costing- Ingredients Approach:**
 - Program Perspective: -- all cost to the program/funder, including opportunity cost of volunteers
 - Program + Caregiver Perspective: -- adding caregiver opportunity cost

The cost matrix on the left is an example from the BK study:

Valuing Caregivers' Time

Opportunity Cost of Time =
Hours of Time x Estimated Hourly Shadow Wage

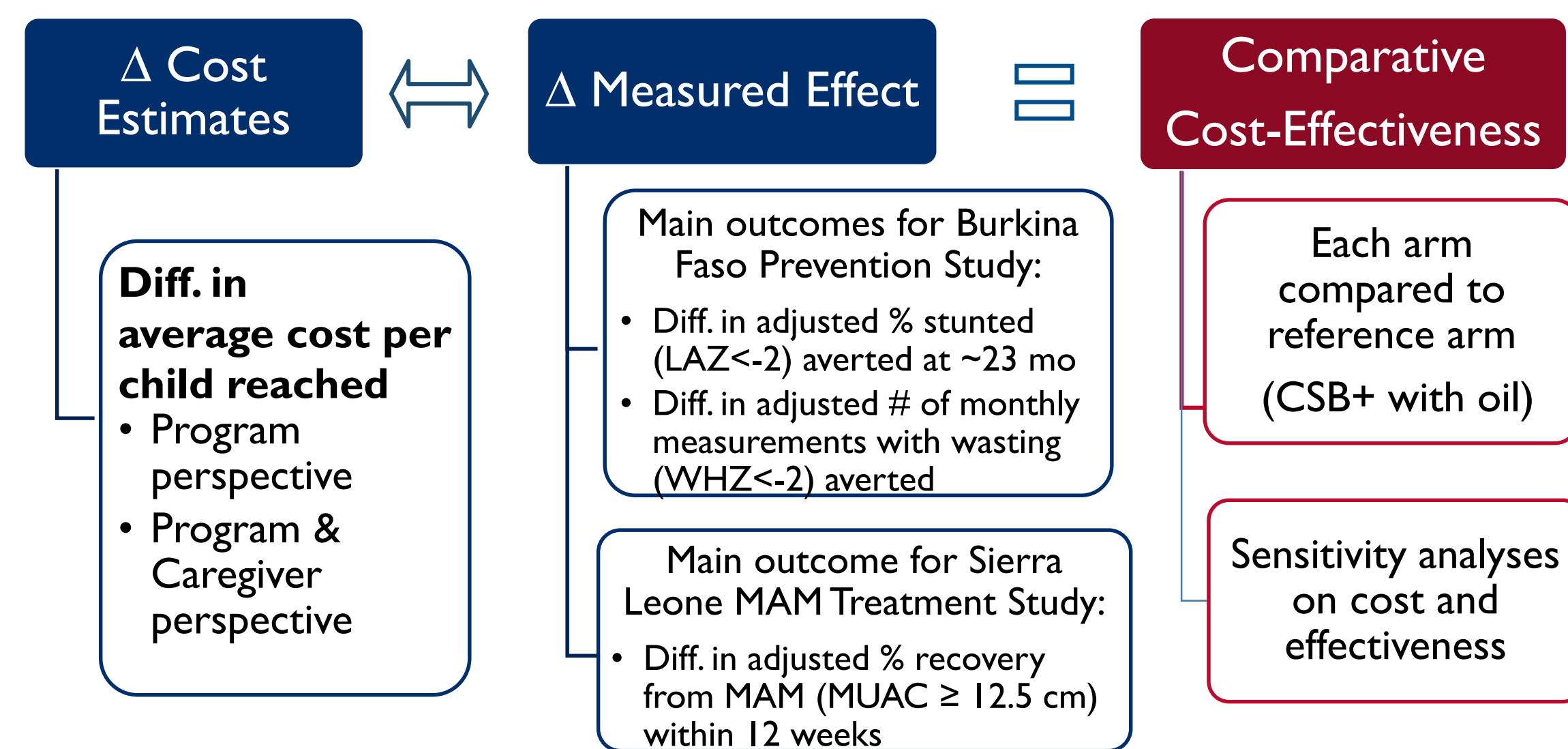
Self-reported & observed time
e.g. \$0.28 USD/hr from mandated minimum hourly wage for agricultural workers in Burkina Faso



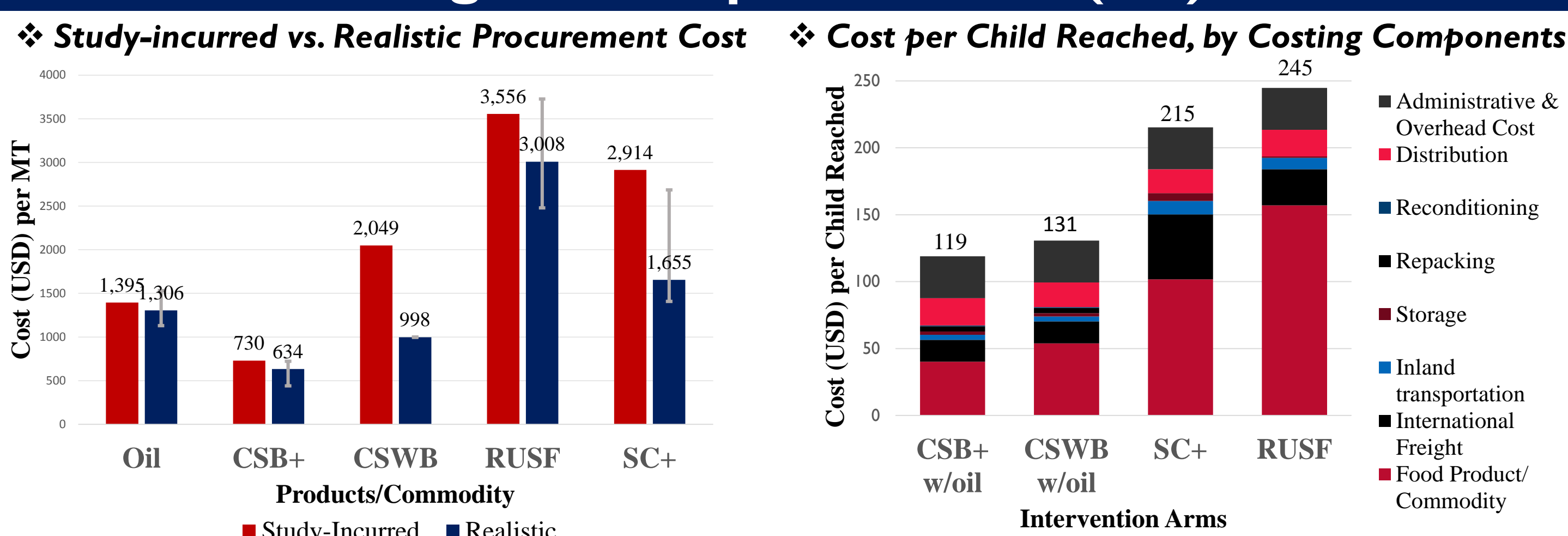
- Cost Data Sources Documents: (Study-incurred vs. Realistic)**
 - Accounting and billing records from implementation partners
 - Warehouse documents
 - USAID historical product procurement data
 - Product and international freight quotes from major product supplier and freight forwarder

- Study Instruments: (Observed vs. Self-reported)**
 - Delivery observations
 - Distribution/Clinic observations
 - In-Home observations
 - In-depth interviews with caregivers
 - In-depth interviews with community health workers and lead mothers

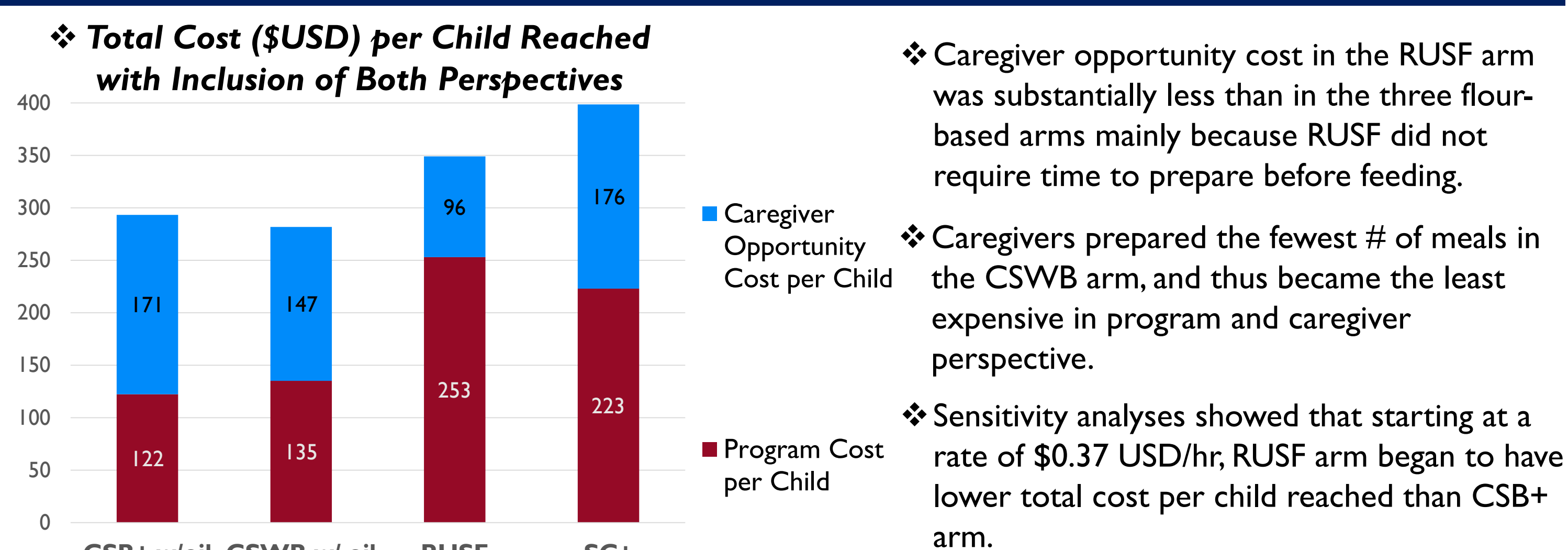
Linking Cost with Effectiveness



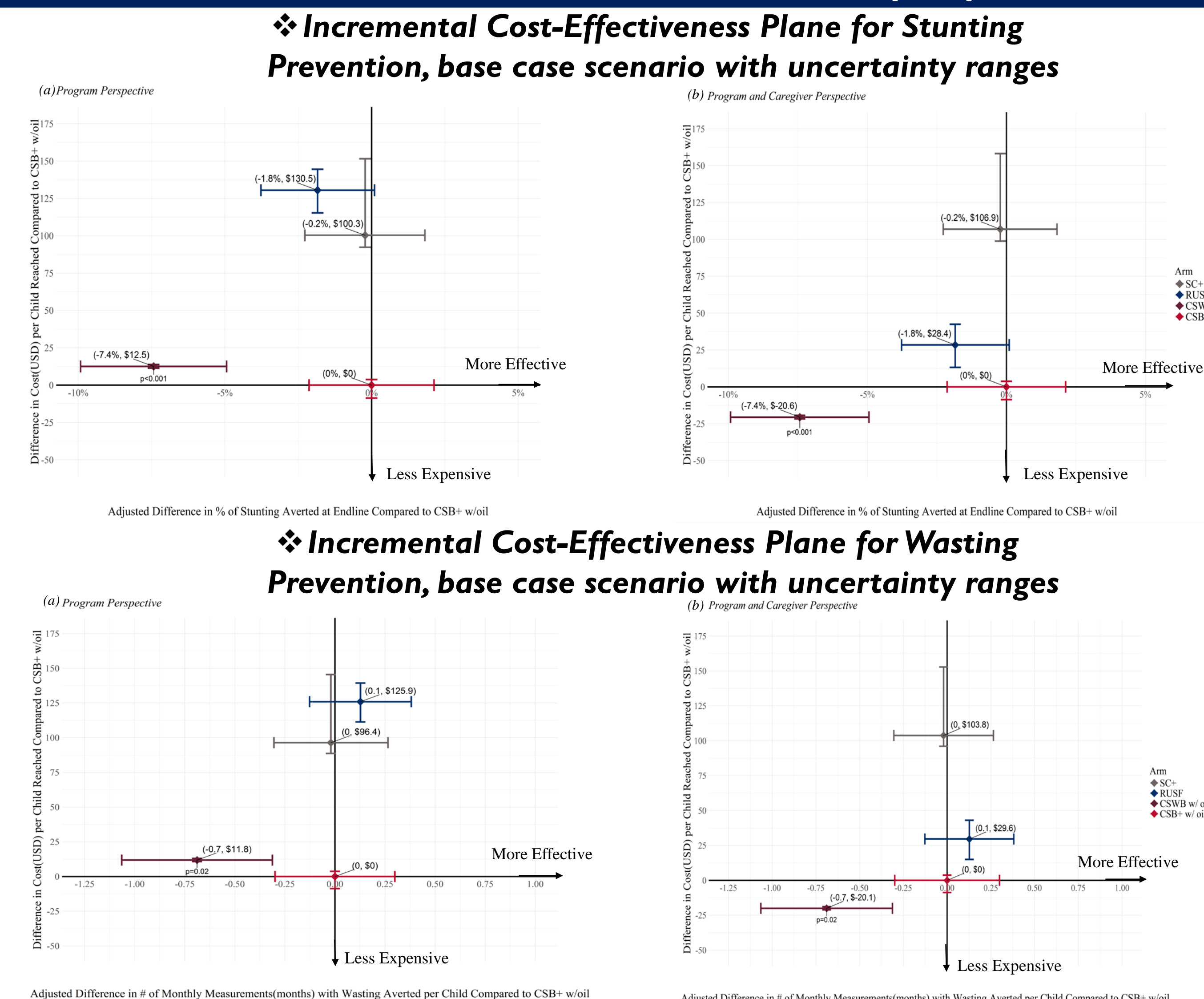
Program Perspective Cost (BK)



Adding the Caregiver Perspective (BK)



Cost-Effectiveness Results (BK)



Conclusions, Lessons, and Next Steps

- Cost varied substantially among the three products that were similar in effectiveness in the BK study, highlighting the importance of generating both cost and impact estimates from research.
- Considering opportunity costs (caregivers and program volunteers) is important in cost-effectiveness analysis for the sustainability of food assistance programs. Including caregiver perspective could affect relative cost-effectiveness rankings. How we value opportunity cost of time matters.
- Replacing study-incurred costs with realistic prices/ quotes from USAID historical data, product suppliers and freight forwarders improved generalizability of study results.
- Cost-effectiveness evidence with robustness checks are needed to make better food assistance programming and policy decisions.
- FAQR used consistent cost-effectiveness methods in BK and SL with attention to differences in contexts. Lessons learned from BK results will be applied to the analysis of SL results.