

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

Ye Shen<sup>1</sup>, Devika J. Suri<sup>1</sup>, Stephen A. Vosti<sup>2</sup>, Breanne Langlois<sup>1</sup>, Ilana Cliffer<sup>1</sup>, Stacy Griswold<sup>1</sup>, Patrick Webb<sup>1</sup>, and Beatrice L. Rogers<sup>1</sup>

<sup>1</sup> Tufts University, Boston, MA USA <sup>2</sup> University of California-Davis, Davis, CA USA

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

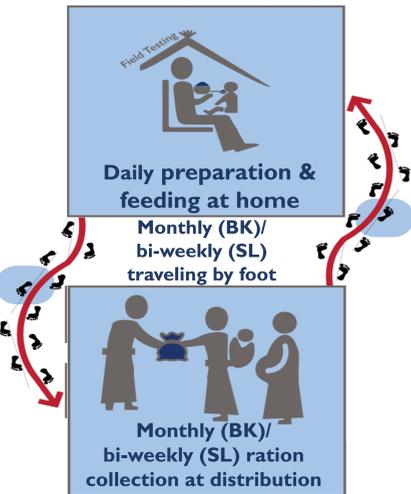
## Study Design

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

## Study Foods (Comparators)

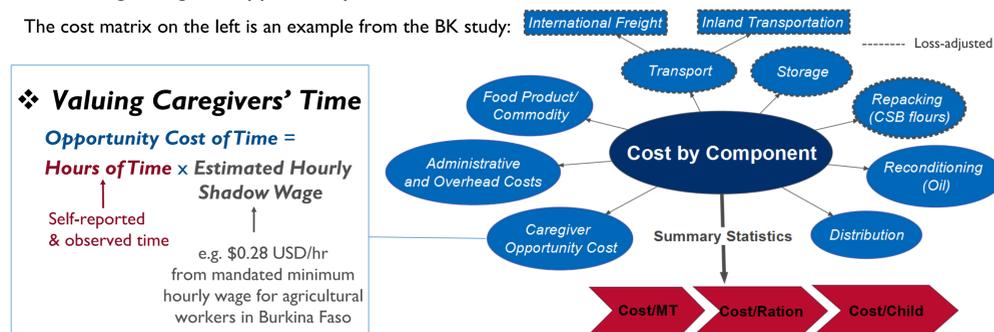
- Arm 1 CSB+:** Corn Soy Blend Plus + Fortified oil
- Arm 2 CSWB:** Corn Soy Whey Blend + Fortified oil
- Arm 3 SC+\*:** SUPER CEREAL plus + Fortified oil  
\* In contrast to the product used in Burkina Faso, the Sierra Leone study used a newer version of SC+ with amylase.
- Arm 4 RUSF:** Ready-to-Use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

## Caregivers' Perspective to Participate in the Supplementary Feeding Programs:



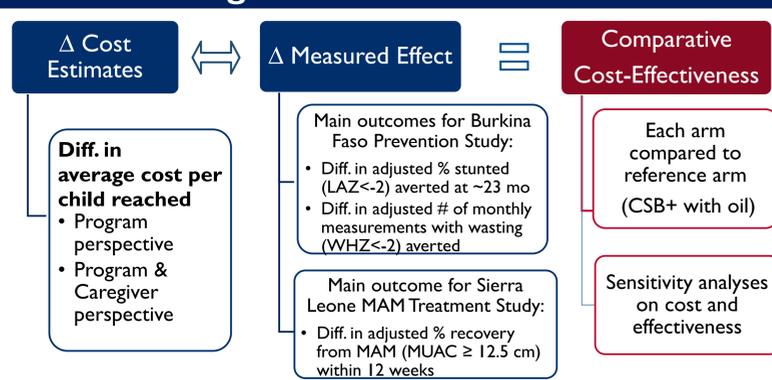
## Costing Methods

- 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

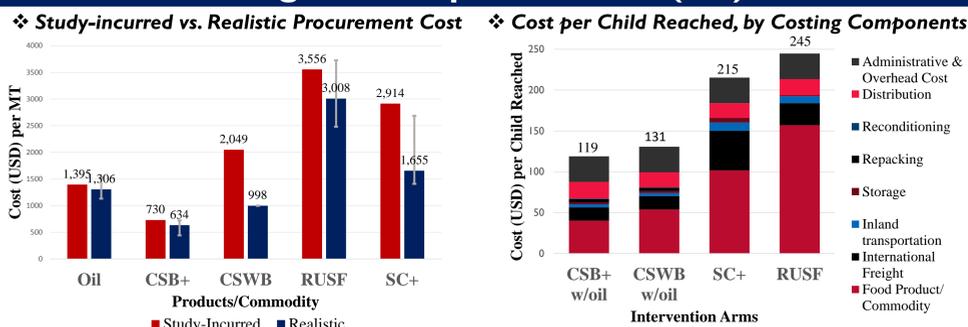


- |   |  |
|---|--|
| <p><b>Cost Data Sources</b></p> <p><b>Documents: (Study-incurred vs. Realistic)</b></p> <ul style="list-style-type: none"> <li>Accounting and billing records from implementation partners</li> <li>Warehouse documents</li> <li>USAID historical product procurement data</li> <li>Product and international freight quotes from major product supplier and freight forwarder</li> </ul> | <p><b>Study Instruments: (Observed vs. Self-reported)</b></p> <ul style="list-style-type: none"> <li>Delivery observations</li> <li>Distribution/Clinic observations</li> <li>In-Home observations</li> <li>In-depth interviews with caregivers</li> <li>In-depth interviews with community health workers and lead mothers</li> </ul> |
|---|--|

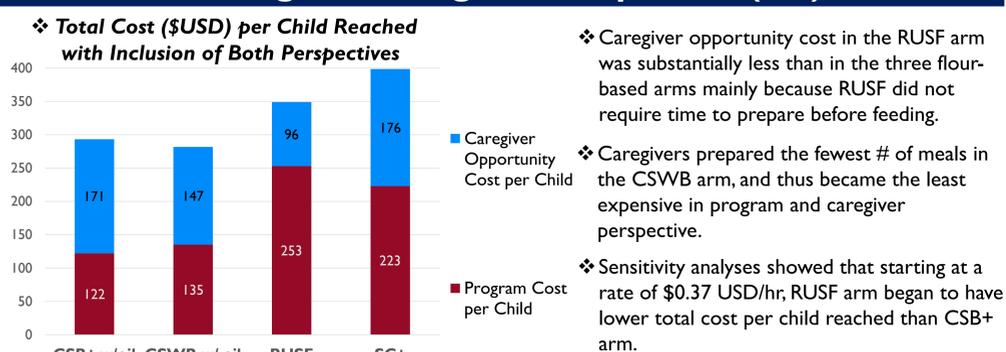
## Linking Cost with Effectiveness



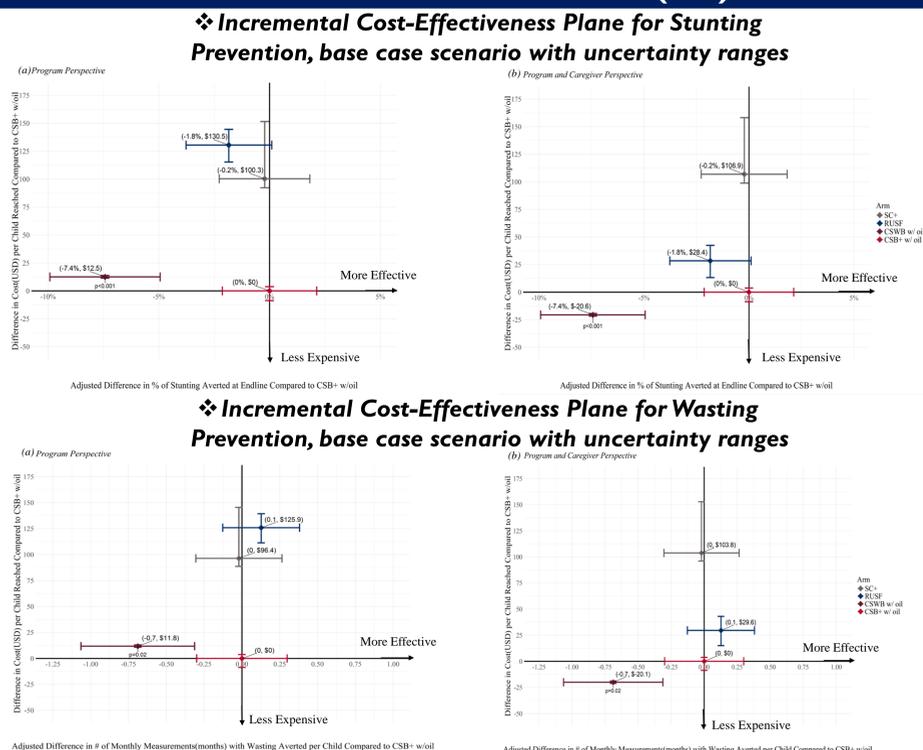
## Program Perspective Cost (BK)



## 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.