Food Aid Quality Review Phase II: Technical Report No. 13

October 2014 - December 2014

This report was produced for the United States Agency for International Development. It was prepared by Tufts University, under the terms of contract AFP-C-00-09-00016-00 awarded to the Friedman School of Nutrition Science and Policy.
## Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>BCC</td>
<td>Behavioral Change Communication</td>
</tr>
<tr>
<td>BMC</td>
<td>Beneficiary’s Mother/Caretaker</td>
</tr>
<tr>
<td>CBO</td>
<td>Country Backstop Officer</td>
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<tr>
<td>CSB</td>
<td>Corn Soy Blend</td>
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<tr>
<td>CSB+</td>
<td>Corn Soy Blend Plus/Supercereal</td>
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<tr>
<td>CSB++</td>
<td>Corn Soy Blend Plus Plus/Supercereal Plus</td>
</tr>
<tr>
<td>CSWB/CSB14</td>
<td>Corn Soy Whey Blend/Corn Soy Blend 14</td>
</tr>
<tr>
<td>DMAP</td>
<td>Data Management and Analysis Plan</td>
</tr>
<tr>
<td>FAQR</td>
<td>Food Aid Quality Review</td>
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<tr>
<td>FBF</td>
<td>Fortified Blended Food</td>
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<tr>
<td>FGD</td>
<td>Focus Group Discussion</td>
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<td>FDPs</td>
<td>Food Distribution Points</td>
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<tr>
<td>FFP</td>
<td>Office of Food for Peace (USAID)</td>
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<tr>
<td>FFPMIS</td>
<td>Food for Peace Management Information System</td>
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<tr>
<td>GF&amp;N</td>
<td>Global Food &amp; Nutrition, Inc.</td>
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<td>HNP</td>
<td>Health and Nutrition Promoter</td>
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<tr>
<td>IRSS</td>
<td>Institut De Recherche En Sciences De Sante</td>
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<tr>
<td>LNS</td>
<td>Lipid-based Nutrition Supplement</td>
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<tr>
<td>M&amp;E</td>
<td>Monitoring and Evaluation</td>
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<td>MAM</td>
<td>Moderate Acute Malnutrition</td>
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<td>MCHN</td>
<td>Maternal Child Health and Nutrition</td>
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<td>MOH</td>
<td>Ministry of Health</td>
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<td>NHSRC</td>
<td>Nation Health Science Research Center</td>
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<tr>
<td>NSRDEC</td>
<td>Natick Soldier Research, Development &amp; Engineering Center</td>
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<tr>
<td>PI</td>
<td>Principal Investigator</td>
</tr>
<tr>
<td>PL 480</td>
<td>Public Law 480 (Agricultural Trade Development and Assistance Act)</td>
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<tr>
<td>PM</td>
<td>Program Manager</td>
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<tr>
<td>PM2A</td>
<td>Preventing Malnutrition in Children Under 2 Approach</td>
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<td>PVO</td>
<td>Private Voluntary Organization</td>
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<td>REFINE</td>
<td>Research Engagement on Food Innovation for Nutritional Effectiveness</td>
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<tr>
<td>RSB+</td>
<td>Rice Soy Blend Plus</td>
</tr>
<tr>
<td>RUSF</td>
<td>Ready to Use Supplementary Food</td>
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<tr>
<td>TOPS</td>
<td>Technical and Operational Performance Support</td>
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<td>USAID</td>
<td>United States Agency for International Development</td>
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<td>USDA</td>
<td>United States Department of Agriculture</td>
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<td>WFP</td>
<td>World Food Programme (United Nations)</td>
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<td>WHO</td>
<td>World Health Organization</td>
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<td>WSB+</td>
<td>Wheat Soy Blend Plus</td>
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Background Information

The United States Agency for International Development’s (USAID) Office of Food for Peace awarded a two-year extension contract (FAQR Phase II) to Tufts University’s Friedman School of Nutrition Science and Policy in October 2011 and a third-year extension in 2013 for a total of five years. FAQR Phase I, conducted from 2009 to 2011, examined the nutritional needs of beneficiary populations across the developing world and the nutritional quality of commodities currently available to meet those needs, with the objective of improving the quality of Title II food aid commodities and programming. The findings of FAQR Phase I were published as a report, *Delivering Improved Nutrition: Recommendations for Changes to U.S. Food Aid Products and Programs* (USAID, April 2011), which is available at www.foodaidquality.org and at http://www.usaid.gov/what-we-do/agriculture-and-food-security/food-assistance/resources/research-and-policy-papers.

The FAQR is part of a series USAID and United States Department of Agriculture (USDA) activities aimed at enhancing product choice under Title II of Public Law 480 (PL480), improving quality control and assurance (of both processes and products), and updating technical guidance and the evidence base for programming approaches. The present contract builds on work performed under the original FAQR and will focus on implementing recommendations made in Phase I for changes in food aid products, programming, and processes.

FAQR Phase II activities include advancing the evidence base through production and testing of improved food products, their packaging and delivery methods, and comparative studies of products’ nutritional effectiveness and cost-effectiveness, implementation research and pilot projects, and facilitation of interagency and multi-sectoral coordination. FAQR Phase II continues its consultative process to interact with and solicit input from a wide range of stakeholders.

The work of the FAQR Phase II continues to address three areas of focus: products (development and testing of new or modified nutritionally enhanced food aid commodities); programs (the uses of such foods to meet nutritional goals in the context of Title II programs); and processes (e.g., safety and quality assurance in the supply chain, harmonization of processes among donor agencies, and coordination among agencies within the US Government). Specific areas of concentration include the following.

Products

Phase II is focusing on: the development of specifications of the updated Fortified Blended Foods (FBF) including Corn Soy Blend 14 (CSB14), recommended in the Phase I report, as well as milled flours, enhanced vegetable oil, and the micronutrient premix(es); CSB laboratory and pilot production testing; acceptability trials; assessments and recommendations for supply chain and related issues.
Programs
Activities include strengthening the evidence base for food assistance programming through expert consultations and workshops on key topics and issues with representatives of the various Title II implementing agencies and other stakeholders. Multiple activities are being undertaken which include the review of food programming guidance provided to Title II implementing agencies and a review of the data collected from Title II implementing agencies as part of required reporting, and how the data are used and could be better used to inform programming. Several field studies are also underway. In Malawi, a field study that finished at the end of FY14 study sought to assess the feasibility of ensuring that when CSB is programmed with oil, beneficiaries use the oil as instructed to prepare CSB porridge for beneficiary children. The study also assessed the impact of package changes (providing CSB in 2-kg packages rather than in bulk), in conjunction with appropriate behavior change messages, on correct use, and other aspects such as intrahousehold sharing. Analysis of this field study will be completed in FY15. The study in Burkina Faso is assessing the effectiveness and cost effectiveness of the new CSB14, delivered with oil, as compared with alternatives such as lipid-based nutrition supplement (LNS) products and other fortified blended foods (including CSB+ and oil and WFP’s formulation of Supercereal Plus (SC+) with skim milk powder and oil incorporated into the matrix), in the prevention of moderate wasting (moderate acute malnutrition or MAM), the prevention of stunting, and the promotion of adequate growth in children 6-23 months. The study in Sierra Leone assessed the effectiveness and cost-effectiveness of these same foods in the treatment of MAM in children under age five. Due to the Ebola Virus Disease (EVD) Outbreak, FAQR suspended permanently the treatment study in Sierra Leone, and began scoping new countries to restart this study. Analysis of the data collected during the Sierra Leone study prior to study cancellation will be completed in early FY15.

Processes
FAQR II focuses on the formation of an Interagency Food Aid Technical Committee as well as implementing regular meetings with major food aid agencies (WFP, UNICEF, USAID, USDA, and others) to address the need for harmonization of food products and related procurement and quality assurance processes used in Title II food aid.
Implementation of Phase II
During this quarter, the following activities were undertaken.

A. Products
Overview: Accelerated shelf life studies on FAQR products; recommendation development on the supply chain process; review and documentation of products upgrade, introduction, harmonization and rollout issues; systematic review manuscript.

1. Accelerated Shelf Life Study
The FAQR team continues to receive and monitor results of the accelerated shelf life and stability studies of CSWB (CSB14), SC+, CSB+, RUSF, and fortified vegetable oil. During this quarter, the team received Certificates of Analyses from suppliers with test results for the final data points. All testing is complete for all products through the 26-week end line analysis. The interim report on the protocol will be complete next quarter.

2. Product Introduction, Rollout and Supply Chain Quality Assurance
The team updated and expanded the product rollout interim report through the quarter. The report analyzes the experience of USAID during the period of FAQR Phase II and makes recommendations for future product rollouts. The team started work on a framework to streamline product introduction and rollouts.

3. Technical Assistance – Future Product Rollout
The FAQR team continues to provide technical assistance to USAID/FFP and work on documents, specifications and templates related to future product introduction and rollouts. The team continues work on drafts of specifications for five (5) new products: fortified milled rice, wheat soy blend plus /Super Cereal (SC), rice soy blend plus /SC and Super Cereal Plus (SC+) wheat and rice versions. The team also developed a comparison of the technical specifications (including composition, nutrient content, microbiological characteristics) of Emergency Bars (WFP High Energy Biscuit and USAID A29) during the quarter.

4. Product Guidance – New Commodity Fact Sheets & Quarterly Fact Sheet Updates
The FAQR team continues to provide USAID/FFP quarterly updates of the Commodity Reference Guide Fact Sheets. The team created fact sheets for new or revised products, including a unified RUTF/RUSF and Fortified Milled Rice.

5. Systematic Review Manuscript
The FAQR team continues work on the manuscript titled, Systematic Review and Meta-Analysis of the Comparative Effectiveness of Ready to Use Foods and Fortified Blended Foods on Growth and
Recovery from Moderate Acute Malnutrition (MAM) in Young Children. The plan is to have this submitted to a peer-reviewed publication by the late spring of 2015.

B. Programs
Overview: Phase II data entry and cleaning, and field exit process in Malawi; beneficiary enrollment, data collection and entry, recruitment and training of “back-up” enumerators, data entry template revisions, porridge sample analysis, and commodity pipeline estimates in Burkina Faso; entry of data from Sierra Leone; relocation of the Four Foods Treatment Study.

I. FAQR Field Studies

a. Feasibility and Acceptability Study-Malawi

1. Data Entry and Cleaning
This quarter, the Tufts field research coordinator from Malawi worked closely with five data entry clerks and the CSR data manager on the data entry and data cleaning process for Phase II data. The Malawi-based team completed entering baseline, Phase I and Phase II data collected from FDP observations, PVO staff members, CHWs, lead mothers, BMCs, and in home observations. The team will enter the remaining data from market observations and study/program costs next quarter. The team conducted field callbacks to confirm information collected during field data collection.

Annex I outlines the completed data sets entered.

2. Field Exit Process
The team completed the field exit process on December 13, 2014. Before exiting the field, the team held meetings with USAID mission and several partners to give feedback on the study. The team also met with CSR to review data deliverables. At the end of this quarter, the final report on data from CSR is still pending. The CSR data department in Malawi has the hard copies of original questionnaires locked in cabinets. The Tufts team remains in contact with the CSR team to discuss any data issues that require checking the original questionnaires. The team conducted a final presentation of preliminary results with all field study partners. Refer to Annex II for final presentation.

b. Effectiveness and Cost-Effectiveness Study – Prevention - Burkina Faso

1. Beneficiary Enrollment
This quarter, the team enrolled 1,971 beneficiary children. The total beneficiary children enrolled to date is 3,028. Annex III shows enrollment information for August – December 2014 broken down by study arm.

2. Data Collection
Out of the 62 in-depth interviews of beneficiary mothers completed, the team collected porridge samples in 60% (37) of households, and 100% (62) water tests. Annex IV shows the qualitative data collection details.

The team continued field supervision and quality control of data collection. The team adjusted inclusion criteria to reflect the realities of the field, set up a system to ensure that enrolled children were correctly followed up, and created a distribution report form to track inclusion and follow-up.

3. Data Entry
The team finalized enrollment forms, follow-up forms and community questionnaires. The field team entered 40% (1,211) enrollment forms (20% of total eventual enrollment), and 100% (199) community questionnaires. Follow-up forms are entered on a continual basis, as new data are collected each month. Annex V describes follow-up measurement forms entered at least once into the database.

The Tufts University IRB approved questionnaire modifications.

4. Continued Training of “Back-up” Enumerators
This quarter, the in-country collaborating research partner, IRSS, selected and trained 27 additional enumerators by sending them to work with the existing teams in the field. The team plans to choose 11 of these enumerators to bolster each existing team with another member. The remaining 16 enumerators will be employed on a need-only basis.

5. Database Templates
The team continues to revise the data entry templates as they become available from IRSS.

6. Porridge Samples
This quarter, the team prepared porridges with known quantities of CSB flour and Fortified Vegetable Oil (FVO), and sent the prepared samples to Institut de Recherche en Sciences Appliquées et Technologies (IRSAT) to verify the porridge testing procedures.
The team compared the lab results to the known calculations, and determined discrepancies with the measured results. The team continues to work with the lab to determine the issues that could be yielding inconsistent results. The team identified a possible second lab to work simultaneously with IRSAT to establish procedures and validate their results.

7. Commodity Pipeline Estimates
The team worked with ACDI/VOCA to adjust the commodity pipeline as a function of historic data of actual number of beneficiaries to whom commodities have been distributed. The Tufts team continues to work with ACDI/VOCA to adjust the subcontract to reflect changes to pipeline estimates.

c. Effectiveness and Cost-Effectiveness Study – Treatment - Sierra Leone

1. Data Entry
This quarter, the FAQR Tufts team and the Washington University team completed all clinic and survey data entry.

2. Restarting the Four Foods Treatment Study
This quarter, the FAQR team continued identifying potential countries to relocate the four foods treatment study. The team is currently exploring Burundi, the Karamoja region of Uganda, Burkina Faso and Malawi as potential locations for restating the four foods study. The team planned a scoping trip to Burundi and Karamoja for this quarter. However, the team postponed the scoping trip due to logistical issues; lack of country clearance from Uganda USAID mission, and request form the ministry of Health in Burundi for more information prior to approving the trip.

2. Cost Effectiveness
The team prepared costing tables for Sierra Leone and Burkina Faso. The team continued to fill in the cost table for Malawi with the Malawi field research coordinator. The FAQR Costing Specialist continued to develop the costing model and prepare a User’s Manual.

3. Data Management
This quarter, the FAQR Data Manager continued updating the Data Management and Analysis Plans (DMAPs) for Malawi, Sierra Leone and Burkina Faso field studies with FAQR members. The team revised the Sierra Leone DMAP based on the collected data post withdrawal due to the Ebola Virus Disease (EVD).
C. Processes
   Overview: Harmonization process with WFP and USAID; REFINE; Interagency meeting

1. Harmonization process with WFP and USAID
   This quarter, FAQR principal investigator, Dr. Patrick Webb, wrote an FAQ, *Standard of evidence for research on ‘what works’ in management of MAM*, for the CMAM forum. Refer to Appendix I for the full document.

   The FAQR team began planning with the next harmonization meeting for April 2015 with partners from USAID, WFP and UNICEF. The team reviewed and updated next steps from the last harmonization meeting.

   This quarter, the FAQR team communicated with the U.S. Army Natick Soldier Research, Development & Engineering Center (NSRDEC) on the following areas: packaging, high-energy biscuits, field monitoring tools and supply chain.

2. REFINE (Research Engagement of Food Innovation for Nutritional Effectiveness)
   This quarter, the FAQR team continued work on the REFINE website by updating the field research matrix, creating a publications library and highlighting current research gaps. The team also began compiling monthly REFINE updates of recent activities and publications relating to food aid and malnutrition. The intent is to be more proactive in updating this website and adding additional analytical insights, not just summaries of protocols.

3. Tenth Interagency Meeting
   The FAQR team is planning the tenth interagency meeting, which will likely be held at the end of next quarter.

Meetings and Events during the period October 1 – December 31, 2014

The team continued to hold working group meetings throughout the quarter to plan FAQR Phase II activities. Selected specific meetings included the following:

- **FAQR Costing Meeting (remote)**
  October 6, 2014
  Dr. Steve Vosti, Costing specialist, and Kassahun Melesse, Costing specialist assistant, walked through the cost projection tool, and explained the methodology and data sources.

- **Dr. Bea Rogers, Jamie Green and Shelley Marcus in Washington DC TOPS/FSN and Meeting with Country Backstop Officers (CBO)**
  October 14, 2014
Dr. Bea Rogers, co-Principal Investigator, Jamie Green, Field Research Director, and Shelley Marcus, Senior Research Coordinator, attended the TOPS/FSN Network Sustainable Impact Resource Guide workshop where they represented the FAQR team in improving their understanding of key concepts and approaches related to sustainability and sustainability measurement. The FAQR team members also met with CBOs from Uganda and Burundi to discuss the relocation of the treatment study.

- **Objectives Meeting for FAQR Visit to U.S. Army Natick Soldier Research, Development & Engineering Center (NSRDEC)**  
  **October 20, 2014**  
  The Tufts FAQR team held a call with USAID to discuss USAID’s visit to the U.S. Army NSRDEC in September, and identify areas of interest for potential collaboration to be further discussed during a Tufts visit to Natick.

- **Ilana Cliffer in Burkina Faso**  
  **Commodity Pipeline Meeting**  
  **October 22, 2014**  
  The Burkina Faso Field Study Coordinator, Ilana Cliffer, met with ACDI/VOCA to discuss calculations of commodity pipeline.

- **Global Food & Nutrition in Washington DC**  
  **Food Aid Consultative Group Meeting**  
  **November 6, 2014**  
  Global Food & Nutrition attended this twice-yearly meeting where USAID and USDA discussed the budget outlook for food aid programs. Food for Peace emphasized the importance of cost per beneficiary calculations in proposals and mentioned the upcoming 60th anniversary of the program.

- **Ilana Cliffer in Burkina Faso**  
  **IRSS Senior Team Meeting**  
  **November 24, 2014**  
  Ilana Cliffer met with the IRSS senior team to discuss study logistics, lack of study materials, i.e. scales and length boards, and procedures for obtaining needed materials, data quality assurance methods, criteria for following up with children in the household if they do not come to the food distribution site, and procedures for focus group discussions.

- **Dr. Patrick Webb in Kathmandu, Nepal**  
  **Meetings with USAID Mission**  
  **November 2014**  
  The FAQR Principal Investigator, Dr. Patrick Webb, met with mission staff in Kathmandu.
involved in planning the new Title II activities in Nepal to explore ways in which there could be collaboration on FAQR operations research.

- **Gray Maganga in Malawi**  
  **Malawi Field Exit Meetings**  
  **October - December 2014**  
The FAQR Field Research Coordinator in Malawi, Gray Maganga, met with CRS, USAID mission and PVOs (Africare, Save the Children and Project Concern International) to discuss preliminary study results, date use and publications, and field exit plan and process. The meetings provided an opportunity to answer questions on the recommended ratio of distributing and preparing CSB and FVO. PVOs included these proportions in their next round of Title II Development Food Aid Programs proposals for Malawi. During these meetings, the FAQR team included ‘Tufts gratitude’ sessions to thank CRS and PVOs for their efforts during this field study.

  Gray Maganga also met with the Ministry of Health (MOH), Nation Health Science Research Center (NHSRC), and local partners to review the study process, share preliminary results and discuss the use of data. Participants provided feedback on the study process during these meetings.

- **Global Food & Nutrition in Washington DC**  
  **Food for Peace Management Information System (FFPMIS) Training**  
  **December 4, 2014**  
Global Food & Nutrition attended the Food for Peace Management Information System Training, a session that was part of USAID/FP’s training program for food aid awardees. Trainer, Ford Tordiff of USAID, introduced data entry procedures for emergency applications, development applications, and Pipeline and Resource Estimate Proposals (PREP) in FFPMIS. GF&N staff participated in this training to get an update on the latest entry system for program inputs in the FFPMIS, and gain a better understanding of the commodity calculator and ration entry elements.

- **Gray Maganga in Malawi**  
  **Relocation of Treatment Study Meetings**  
  **December 21, 2014**  
The FAQR Field Research Coordinator in Malawi, Gray Maganga, met with CRS and PCI to discuss the potentials of relocating the FAQR Treatment Study to Malawi.

- **USAID/WFP Scoping Meetings**  
  **October - December 2014**
The FAQR team held a series of discussions among Tufts University, Washington University, USAID and WFP to discuss details of closing down study operations in Sierra Leone, and country options for the relocation of the Four Foods Treatment Study.

- **Informational Meetings for Relocation**  
  **October – November 2014**  
The FAQR team held a series of Skype/phone meetings with key contacts in Uganda and Burundi to gather information on the feasibility of conducting research in each country. Field Research Coordinators in Malawi and Burkina Faso met with key contacts in-country to discuss potential opportunities for conducting the treatment study in Malawi and Burkina Faso.

- **Dr. Patrick Webb, Shelley Marcus, Jocelyn Boiteau, Kristine Caiafa in Boston**  
  **REFINE Website Meetings**  
  **October - December 2014**  
FAQR team members met throughout the quarter to discuss updating the REFINE website to create a more user-friendly resource focusing on current gaps in food intervention research.

**Administration and Budget**

During this quarter, the following activities were undertaken.

**A. Budget**
The FAQR team continues to monitor the budget and make projections based on real-time expenditures and assessments of fiscal realities. FAQR Phase II is currently funded through May 31, 2015.

**B. Staffing**
The FAQR team hired a new full-time data analyst, Breanne Langlois, who will start with FAQR at the beginning of next quarter.

Breanne received her MPH in Global Health from Boston University in 2012. Her emphasis area was Research Methods and Data Analysis. Most of her international experience has been in Ethiopia, where she served as a Peace Corps Volunteer in the first health sector program from 2007-2009. She spent the past two years at Boston Medical Center, supporting resident and faculty Emergency Medicine research, including data analysis support.

**Plans for the coming quarter (January-March 2015)**

January-March 2015 represents the fourteenth quarter of implementation for FAQR Phase II and the
second quarter of the costed extension until end of May, 2015.

A. Products
   a. Product Introduction and Rollout Activities
      i. Review comments and update report
      ii. Continue work on final summary report and comprehensive report, and submit to USAID/FFP next quarter
      iii. Develop related presentation materials based on feedback
   b. Shelf Life and Stability Studies
      i. Review comments and finalize report on this activity
      ii. Submit final report to USAID/FFP
   c. Commodity Reference Guide (CRG) Quarterly Updates
      i. Continue to work with USAID/FFP to update the Commodity Reference Guide Fact Sheets, and complete Fact Sheets as specifications for new products are approved
   d. Product Technology and Innovation
      i. Continue planning visit to the U.S. Army NSREDC for next quarter

B. Programs
   a. Feasibility/Acceptability Study (Malawi)
      i. Complete data entry and organization for quantitative and qualitative data
      ii. Hold team meetings to complete the data analysis plan
      iii. Continue analysis of Phase II data
      iv. Continue analysis of cost data
      v. Complete data analysis and preparation poster presentation for Experimental Biology 2015
      vi. Plan dissemination activities (reports, presentations, publications) for Malawi findings
   b. Prevention Effectiveness Study (Burkina Faso)
      i. Hire and train additional enumerators as permanent fixtures in the field teams
      ii. Facilitate and transcribe focus group discussions
      iii. Hire and train additional data entry agents on a short-term basis
      iv. Continue the process of lab verification for porridge testing, and sign a contract with the selected lab
      v. Continue to revise data entry templates as they become available
      vi. Continue conducting in-home observations
      vii. Continue conducting in-depth interviews
      viii. Continue conducting distribution observations
      ix. Start lead mother interviews, and focus groups discussions
x. Pre-test truck riding instrument
xi. Hold motivational meetings with distribution committees

c. Treatment Effectiveness Study (Sierra Leone and New Country)
   i. Hold FAQR team meeting to discuss Sierra Leone data and data management and analysis plan
   ii. Complete double data entry for clinic data from Sierra Leone
   iii. Complete data analysis
   iv. Complete data analysis and preparation poster presentation for Experimental Biology 2015
   v. Finalize reports of study activities, and data for WFP and USAID
   vi. Plan dissemination activities (reports, presentations, publications) for Sierra Leone findings
   vii. Submit continuing review to Tufts University IRB for Sierra Leone (as the team continues to analyze the data)
   viii. Modify study components (as needed) and submit Tufts University IRB and submit to chosen country ethical review board
   ix. Continue to gather information and make contacts with individuals from countries of interest to determine viable options for the relocation of the Four Foods Treatment Study
   x. Conduct a scoping trip to countries of interest to make local contacts, to identify potential implementing and research partners, and to assess feasibility of conducting research in each location
   xi. Make a selection of new treatment study country

d. Cost Analysis
   i. Integrate new data analyst
   ii. Continue revising DMAP for Sierra Leone replacement country for the four foods study
   iii. Continue to edit costing model for all effectiveness study products and product comparisons based on feedback from FAQR team
   v. Prepare analysis roles and plans for the new data analyst and the Malawi field research coordinator

C. Process
   a. REFINE
      i. Complete REFINE website updates, and make live online
   
   b. Harmonization Meeting
i. Continue planning for follow-up Harmonization meeting of USAID, WFP and UNICEF planned for April 2015
ii. Continue planning FAQR visit to U.S. Army NSRDEC; conduct visit and hold de-brief meeting with team

**c. Interagency Work**

i. Continue to follow up activities and next steps from this quarter's meeting and progress on technical issues
ii. Discuss and plan FY15 Interagency Meeting
### Annex I. Feasibility/Acceptability Study in Malawi Completed Data Sets

<table>
<thead>
<tr>
<th>Category - Questionnaire No.</th>
<th>Study Subjects and Participants</th>
<th>Baseline</th>
<th>Phase 1</th>
<th>Phase 2</th>
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<td>Control FDP (4)</td>
<td>Treatment FDPs (6) – Oil, BCC</td>
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<td>-</td>
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<tr>
<td></td>
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<td>Health Care Workers</td>
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<td>Beneficiary Mothers/Caretakers (4 FGDs intervention, 3 FGDs control) – Form</td>
<td>55</td>
<td>55</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>Beneficiary Mothers/Caretakers (in home observations)</td>
<td>18</td>
<td>18</td>
<td>9</td>
</tr>
<tr>
<td>Market Observations</td>
<td>Observation for market</td>
<td>14</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>FDP Observations</td>
<td>Beneficiary Mothers/Caretakers (FDP observations)</td>
<td>60</td>
<td>24</td>
<td>8</td>
</tr>
<tr>
<td>Warehouse to FDP timing/ Ride Along (# of FDPs)</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Tracking Intervention Costs</td>
<td>(Informal interviews, Doc Review, etc.)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Laboratory Analysis</td>
<td>Porridge samples</td>
<td>283</td>
<td>422</td>
<td>648</td>
</tr>
</tbody>
</table>
Annex II. Final presentation of preliminary results for Malawi field study partners

Tufts University – FAQR 2
Malawi Study - Updates
FEASIBILITY AND ACCEPTABILITY OF 100g.CSB AND 30g.FVO IN MALAWI

Gray Maganga; Research Coord. (Tufts) gray.maganga@tufts.edu / gray.Maganga@gmail.com
Nov. 17.2014
Background

- Preventing and Treating MAM commonly depend on Supplementary Feeding (SF)
- There are many efforts but no solid agreement on the most effective and cost-effective way to prevent/treat MAM (Hence common relapses and SAM)
- Recommended approaches targeting the first 1000 critical days of the child
- Children take in 17g to 400g of CSB per day (sharing determinants – HH composition, Social and behavioral, food insecurity, mothers involvement in child feeding, etc)
- Unquestionable need for a child to take in sufficient caloric density (200 to 600 calories → Age specific)

Background- ctd

- Appropriate diet for MAM child: High content of growth micronutrients; high, sufficient, quality, available protein; adequate appropriate quality fat; high energy density, available and affordable
- Food Aid Quality Review –Since 2009: FFP ongoing process to review and improve the quality and efficiency of USAID SF, state of science and technology... to best address nutrition-related needs...products, programming and processes.
Study Aims

- Increase percent of oil in prepared porridge
- Increase percent of beneficiary mothers/caretakers (BMCs) preparing the porridge with the ratio of 30g oil:100g CSB
- Decrease percent of BMCs reporting within household sharing of porridge;
- Prevent increases in between household sharing/selling of corn soy blend (CSB) (due to repackaging) and/or fortified vegetable oil (due to increased ration)
- Compare costs and time for interventions
- Successful communication of preparation methods by health workers to BMCs
Methodology

- Repeat cross-sectional - with Control (Baseline, Phase 1, Phase 2)
- Multi-stage cluster random sampling (FDPs serving as clusters)
- Proportion-to-Size Technique
- Interviews, Focus Group Discussions, Observations, Laboratory Analysis, Documents review

Interventions

Phase I (October 2013 to January, 2014)

1. Increasing FVO (from 1L to 2.6L) in 12 FDPs (4FDPs served as Controls)
   - Treatment: 8Kg CSB13 and 2.6L FVO per beneficiary
   - Controls: 8Kg CSB and 1L FVO per beneficiary
FVO intervention

BCC intervention

2. BCC information to treatment sites (Information Designing, Training CHW and BCC material development)

- Developed recipe for cooking CSB13/CSB+ and FVO porridge
- Trained over 300 community health care workers on CSB-FVO information
- Designed banners, pamphlets
Recipe Development

Training HCWs
BCC media

Banners and Pamphlets

Banners

PHALA LA SOYA NDI MAFUTA NDI MANKHWALA A MWANA WANU WONYENTCHERA. PHALALI LIKUYENERA KUPHIKIDWA MOTSATIRA MILINGO IYI:

UFA - GAWO LIMODZI LA MAGAWO ATATU A KAPU YA CHICHERE

MAFUTA - MASIPUNI ACHITSULO AAKULU 6

USAID FROM THE AMERICAN PEOPLE

Tufts UNIVERSITY
Phase II: 2Kg Packets

Phase II started in February, 2014 up to June, 2014

3. 2Kg CSB Packets intervention to 6 FDPs
   - Made 2Kg packets with printed messages
   - Distributed packets to 6 FDPs
   - Trained over 300 HCWs on packet messages
Informational Stickers

Repacked CSB+

2Kg 8Kg 24Kg
Data Collection

- Projected Sample (Baseline, Phase 1 and Phase 2)
- Data Collected (Baseline, Phase 1 and Phase 2)

Results – Baseline and Phase 1

<table>
<thead>
<tr>
<th>CHARACTERISTICS OF STUDY PARTICIPANTS</th>
<th>Baseline</th>
<th>Phase I Intervention (oil and messaging)</th>
<th>Phase I Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Age of Beneficiary Child (months)</td>
<td>294</td>
<td>26.0</td>
<td>14.1</td>
</tr>
<tr>
<td>Age of BMC (years)</td>
<td>288</td>
<td>28.6</td>
<td>9.1</td>
</tr>
<tr>
<td>Percent of Households with one or two Beneficiary Children</td>
<td>294</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One</td>
<td>96.5%</td>
<td>3.5%</td>
<td></td>
</tr>
<tr>
<td>Two</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Results: Aim 1.1 – Oil to CSB Ratio (Target = 30:100)

Mean oil to CSB ratio in porridge, as determined by lab analysis

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Phase 1 Intervention</th>
<th>Phase 1 Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean oil to CSB ratio</td>
<td>0.09</td>
<td>0.25</td>
<td>0.12</td>
</tr>
</tbody>
</table>

(p<.001).

Aim 1.2 – Percent of mothers preparing porridge at target ratios

Percent of Mothers Preparing Porridge at Target Ratios in Phase I Intervention Group vs. Control Group

<table>
<thead>
<tr>
<th>Ratio</th>
<th>Phase I Intervention</th>
<th>Phase I Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>30:100</td>
<td>6.0%</td>
<td>4.4%</td>
</tr>
<tr>
<td>20:100</td>
<td>42.1%</td>
<td>15.6%</td>
</tr>
<tr>
<td>9:100</td>
<td>98.3%</td>
<td>60.6%</td>
</tr>
</tbody>
</table>
Aim 1.3 – Sharing within the household \((p<.001)\)

<table>
<thead>
<tr>
<th>Phase 1 Intervention</th>
<th>Phase 1 Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>Mean</td>
</tr>
<tr>
<td>Mean amount of porridge fed to child (mL), reported</td>
<td>237</td>
</tr>
</tbody>
</table>

Percent of mothers reporting on sharing indicators, by Phase 1 study group

- Phase I Intervention (Oil and Messaging), n=293
- Phase I Control, n=163

Giving CSB to other households: 2.9% in Phase I Intervention, 8.6% in Phase I Control

Other household members besides beneficiary child consuming porridge: 46.0% in Phase I Intervention, 73.6% in Phase I Control

Other children besides beneficiary child consuming porridge: 38.1% in Phase I Intervention, 62.0% in Phase I Control

---

Aim 2 – Cost and Cost-Effectiveness (in progress)

**Costs**
- Commodity
  - Transport to and within country
  - Warehousing
  - Loading, unloading
- Personnel
- Beneficiary time
- Program and Start-up costs
  - BCC messaging development
  - Additional costs of Phase 1 and 2 repackaging, etc

**Cost-Effectiveness Indicators**
- Cost per additional beneficiary mother preparing porridge with target ratio
- Cost per additional percentage point of oil in porridge

**Example: Baseline Commodity Costs**

- CSB: 5%
- CSB To country transport: 12%
- Oil: 35%
- Oil To country transport: 48%
Aim 3: Determinants of Effectiveness
Selected Process/Communication Indicators

Percent of mothers reporting on communication indicators, by study group

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Phase 1 Intervention</th>
<th>Phase 1 Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Told any ratio of CSB to oil</td>
<td>81.6%</td>
<td>60.1%</td>
</tr>
<tr>
<td>% Told 100g CSB to 30g oil (target ratio)</td>
<td>12.0%</td>
<td>7.8%</td>
</tr>
<tr>
<td>% that reported being told how often to feed porridge to child</td>
<td>92.1%</td>
<td>89.0%</td>
</tr>
<tr>
<td>% that reported being told how long to boil porridge</td>
<td>93.3%</td>
<td>76.1%</td>
</tr>
<tr>
<td>% that reported being told how to store CSB</td>
<td>84.9%</td>
<td>68.1%</td>
</tr>
<tr>
<td>% that reported being told how to store Oil</td>
<td>83.3%</td>
<td>65.0%</td>
</tr>
<tr>
<td>% that reported a health worker guiding them on CSB porridge preparation at home</td>
<td>26.8%</td>
<td>9.8%</td>
</tr>
</tbody>
</table>

Way Forward
Way Forward

1. In-depth analysis with its derivative publications and recommendations
2. Determining cost and cost effectiveness of treating a MAM child at the household (cost of 1L FVO and 1Kg CSB)
3. Final Report to be shared with all partners
4. Potential effectiveness trials – in Malawi?
### Annex III. Prevention Study Enrollment

#### Enrollment, Burkina Faso FAQR, August-December 2014

<table>
<thead>
<tr>
<th>Arm</th>
<th>August</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>TOTAL TO DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>176</td>
<td>157</td>
<td>166</td>
<td>147</td>
<td>646</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>170</td>
<td>175</td>
<td>181</td>
<td>120</td>
<td>652</td>
</tr>
<tr>
<td>3</td>
<td>169</td>
<td>209</td>
<td>175</td>
<td>163</td>
<td>186</td>
<td>902</td>
</tr>
<tr>
<td>4</td>
<td>138</td>
<td>189</td>
<td>166</td>
<td>164</td>
<td>171</td>
<td>828</td>
</tr>
<tr>
<td>TOTALS</td>
<td>313</td>
<td>744</td>
<td>673</td>
<td>674</td>
<td>624</td>
<td>3028</td>
</tr>
</tbody>
</table>

#### Enrollment information, Burkina Faso FAQR, August-December 2014

<table>
<thead>
<tr>
<th>Arm</th>
<th>Average* inclusions per month</th>
<th>SAM+ Referrals: Inclusion</th>
<th>SAM Referrals: Follow-up</th>
<th>Deaths</th>
<th>#Kids left to enroll</th>
<th>Estimated remaining months to complete enrollment</th>
<th>Estimated Enrollment Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>162</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>854</td>
<td>5</td>
<td>May</td>
</tr>
<tr>
<td>2</td>
<td>162</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>848</td>
<td>5</td>
<td>May</td>
</tr>
<tr>
<td>3</td>
<td>183</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>598</td>
<td>3</td>
<td>March</td>
</tr>
<tr>
<td>4</td>
<td>173</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>672</td>
<td>4</td>
<td>April</td>
</tr>
<tr>
<td>TOTALS</td>
<td>170</td>
<td>26</td>
<td>12</td>
<td>7</td>
<td>2972</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Average does not include the aberrant month of August
+SAM=Severe acute malnutrition
Annex IV. Prevention Study Qualitative Data Collection

<table>
<thead>
<tr>
<th>Data collection, Burkina Faso FAQR, October-December 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-depth Interview of Beneficiary Mothers</td>
</tr>
<tr>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Totals</td>
</tr>
<tr>
<td>Community Questionnaire</td>
</tr>
<tr>
<td>Totals</td>
</tr>
</tbody>
</table>

*In-depth Interview of Beneficiary Mothers conducted at the end of the in-home observation

**Denominator includes porridge collected during interviews at the end of the in-home observations

***Denominator includes water tests completed during interviews at the end of in-home observations
### Annex V. Follow-up Measurement Form Data Entry

Follow-up measurement forms entered at least once, Burkina Faso FAQR, August-December 2014

<table>
<thead>
<tr>
<th>Arm</th>
<th>Forms entered</th>
<th>% forms entered of available forms</th>
<th>% forms entered of total eventual forms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>482</td>
<td>75%</td>
<td>32%</td>
</tr>
<tr>
<td>2</td>
<td>108</td>
<td>17%</td>
<td>7%</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>TOTALS</td>
<td>590</td>
<td>92%</td>
<td>29%</td>
</tr>
</tbody>
</table>