Research Engagement on Food Interventions for Nutritional Effectiveness:

Maintaining and Expanding the REFINE Repository for Food Assistance Research

A Report from the Food Aid Quality Review

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ACRONYMS

Ag2Nut	Agriculture-Nutrition Community of Practice
ANH	Agriculture, Nutrition, and Health Academy
ASF	Animal-Source Food
BHA	Bureau for Humanitarian Assistance (USAID)
DMP	Data Management Plan
EED	Environmental Enteric Dysfunction
FAIR	Findable, Accessible, Interoperable, and Reusable
FAQR	Food Aid Quality Review
FBF	Fortified Blended Food; also Fortified Blended Flours
FFP	Office of Food for Peace (USAID)
ICTRP	International Clinical Trials Registry Platform
ISRCT	International Standard Randomised Controlled Trial Registry
J-PAL	Abdul Latif Jameel Poverty Action Lab
LNS	Lipid-Based Nutrition Supplement
MAM	Moderate Acute Malnutrition
MUAC	Mid-Upper Arm Circumference
REFINE	Research Engagement on Food Interventions for Nutritional Effectiveness
RSS	Really Simple Syndication
RUF	Ready-to-Use Food
RUSF	Ready-to-Use Supplementary Food
RUTF	Ready-to-Use Therapeutic Food
SAM	Severe Acute Malnutrition
SBCC	Social and Behavior Change Communication
SD	Standard Deviation
SNF	Specialized Nutritious Food
SNFP	Specialized Nutritious Food Product
USAID	United States Agency for International Development
WASH	Water, Sanitation and Hygiene
WFP	World Food Programme
WHO	World Health Organization
WHZ	Weight-for-Height Z-Score
WLZ	Weight-for-Length Z-Score

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JULY 2021

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Since 2009, the Food Aid Quality Review (FAQR) has been providing support to the United States Agency for International Development's (USAID) Bureau for Humanitarian Assistance (BHA), the legacy Office of Food for Peace (FFP), and its partners with actionable recommendations on ways to improve nutrition among vulnerable people for whom the distribution of food assistance can make a significant impact. In 2012, FAQR developed a website at REFINEnutrition.org to house a resource called Research Engagement on Food Interventions for Nutritional Effectiveness (REFINE).

REFINE is a knowledge-sharing mechanism that seeks to improve the cost and effectiveness of food-supported interventions in emergency and non-emergency contexts. Ongoing and published clinical studies, as well as review papers and grey literature that consider advancements in food assistance for nutrition are archived on REFINE as a result of a systematic search, then organized according to intervention type and research gap being addressed. These resources are assembled into the REFINE Resource Review and shared with FAQR partners and the global nutrition assistance community on a quarterly basis.

This document is intended to provide background and guidance for institutions interested in maintaining REFINE. The document summarizes the REFINE scope, the workflow for future managers, and the value of the platform within the food assistance research community. It then outlines how REFINE must evolve to remain relevant to nutrition researchers and practitioners in the future. These recommendations identify feasible options for future REFINE hosts to maintain and expand its capacity as a critical knowledge-sharing tool in the dissemination and harmonization of research on food assistance for nutrition.

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JULY 2021

REFINE

I. BACKGROUND

The Research Engagement on Food Interventions for Nutritional Effectiveness (REFINE) website was established in 2012 as part of the Food Aid Quality Review (FAQR) project. FAQR provides support to the United States Agency for International Development's (USAID) Bureau for Humanitarian Assistance (BHA) and its partners with actionable recommendations on ways to improve nutrition among vulnerable peoples for whom the direct distribution of food aid can make a significant impact. REFINE is a knowledge-sharing mechanism that aims to improve the effectiveness of food-supported interventions in emergency and non-emergency contexts. REFINE's ultimate goal is to improve the nutritional or health status of vulnerable populations worldwide. The REFINE website catalogs the research activity surrounding food-supported interventions by documenting ongoing studies relevant to food assistance policy and programming, collecting both policy-relevant publications and ongoing studies, and defining research gaps.

Photo credit: USAID

II. PURPOSE

Humanitarian organizations around the world are working to improve or protect the nutritional status of vulnerable populations by providing food assistance in various forms. Strong evidence is always needed on which food products to use and how to deliver them; lack of such information has impeded these efforts. REFINE supports consensus-building on such topics by collecting ongoing studies and published evidence to help define what we know and where knowledge gaps still exist. REFINEnutrition.org is a web-based platform that includes information on and/or links to:

- Ongoing trials on clinical trial registries searched by REFINE.
- Publications from clinical trials testing food assistance products and peer-reviewed evidence, including reports and evaluations from programs using these products.
- A resource library relating to food-supported interventions, including systematic reviews, meta-analyses, organizational documents, and general discussion pieces on key topics related to food assistance products and interventions.
- Current evidence gaps in food aid, determined by a team of international experts.

III. OBJECTIVES

1. **Facilitate information and resource sharing on innovations and research relevant to food-supported interventions that support better nutrition outcomes.**

    REFINE is a repository of ongoing research, published studies, and other key documents relating to food-supported interventions. It categorizes information by searchable priority themes such as the focus geography of the study, the nutritional problem targeted, and the intervention implemented. The aim is to stimulate dialogue and forge linkages among relevant research initiatives.

2. **Encourage necessary research and help coordinate where appropriate.**

    Many researchable questions exist at a time when demand for evidence-based practice is growing. The need for greater rigor and innovation in research design is widely recognized. REFINE facilitates transparency in food aid research, promotes interaction among researchers working in this field, and helps to disseminate research results promptly.

3. **Help facilitate discussion and presentation of findings.**

    The REFINE platform serves as an active portal for sharing information on research designs, protocols, preliminary findings/working papers, and final publications. Periodic meetings of stakeholders may be convened to further collaboration on research proposals, discussion of analyses, or policy advocacy.

4. **Promote a focus for future research investments.**

    REFINE highlights priority knowledge gaps in the food aid research literature and encourages study designs and analytical approaches that generate data and results that are high-caliber and have operational relevance.

IV. SCOPE AND WORKFLOW OF REFINE

REFINE includes resources that use food assistance products, use foods that have been nutritionally enhanced, or study specific ingredients that are intended for use in food assistance. Study populations are restricted to those without chronic conditions that confound nutritional health (e.g., diabetes, HIV/AIDS).
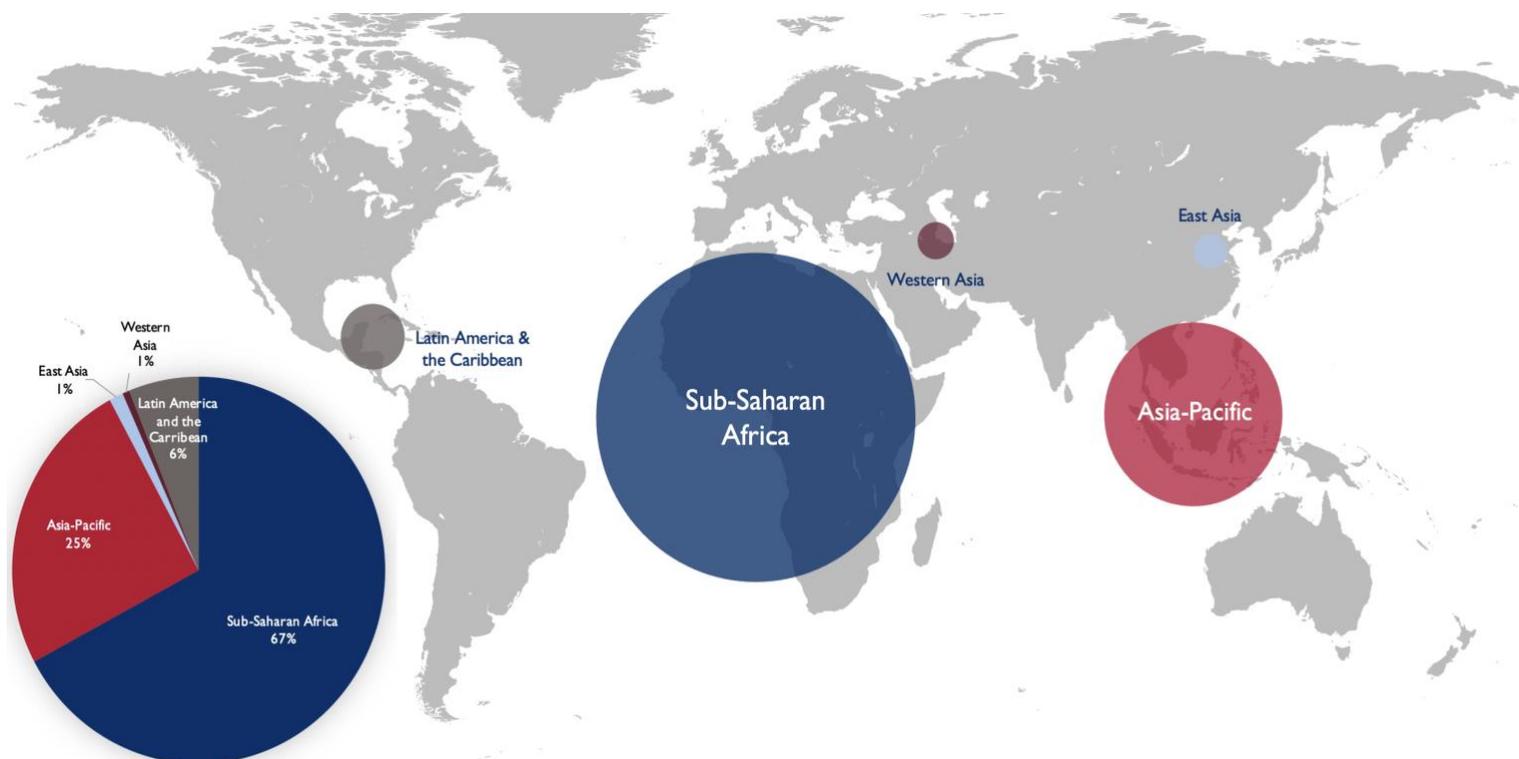
Eligible studies report outcome measures including birth weight, weight gain, height gain, weight-for-age, height-for-age, weight-for-height/length, mid-upper arm circumference, lean body mass, recovery, mortality, default, nutritional intake, cognitive abilities, and product acceptability. Studies investigating the intergenerational effects of an intervention are considered if outcome measures include wasted or stunted status or body composition of the participants in addition to another measure of recovery.

To facilitate ease of use, resources on the REFINE repository are categorized by geography, the primary nutritional problem, the intervention used, and the target research gap.

GEOGRAPHIC SCOPE OF REFINE

Of the published studies available on REFINE, almost 70 percent focus on populations in sub-Saharan Africa, 25 percent on Asia-Pacific countries, and less than 10 percent on Latin America and the Caribbean (**Figure 1**).

Figure 1. Geographic Areas of REFINE Published Studies

Research Engagement on Food Interventions for Nutritional Effectiveness:
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JULY 2021

Ongoing and published clinical studies are categorized according to the specific nutritional problem being addressed according to the study design:

Treatment of Moderate Acute Malnutrition (MAM)[1]

- Moderate acute malnutrition is defined by a weight-for-height z-score (WHZ) of ≥-3 standard deviations (SD) and <-2 SD, and/or mid-upper arm circumference (MUAC) of ≥11.5 and <12.5 cm.

Treatment of Severe Acute Malnutrition (SAM)[2]

- Severe acute malnutrition is defined by WHZ of <-3 SD, MUAC of <11.5 cm, and/or nutritional edema.

Prevention of Stunting, Wasting, and Underweight[3]

- Stunting is defined by height-for-age < –2 SD.
- Wasting is defined by weight-for-height < –2 SD.
- Underweight is defined by weight-for-age < –2 SD.

Photo credit: USAID

[1] Lenters, L., K. Wazny, and Z. A. Bhutta. "Chapter 11. Management of severe and moderate acute malnutrition in children." *Disease Control Priorities: Reproductive, Maternal, Newborn, and Child Health; The World Bank: Washington, DC, USA* 2 (2016).
[2] Lenters, L., et al. "Chapter 11. Management of severe and moderate acute malnutrition in children." (2016).
[3] World Health Organization. "Nutrition Landscape Information System (NLIS) country profile indicators: interpretation guide." (2019).

INTERVENTIONS USED

Ongoing and published clinical studies are categorized according to the specific nutritional intervention being investigated according to the study design:

Lipid-Based Nutrient Supplements (LNS)

LNS are fortified, lipid-based products. Common LNS products include LNS-small quantity (LNS-SQ), ready-to-use therapeutic foods (RUTFs), and ready-to-use supplementary foods (RUSFs).[4,5,6,7]

Fortified Blended Foods (FBF)

FBFs are blends of partially precooked and milled cereals, soy, beans, or pulses fortified with micronutrients. Special formulations may contain vegetable oil or milk powder.[8] Commonly used FBFs include corn soy blend (CSB and CSB+), wheat soy blend (WSB), Super Cereal, and Super Cereal Plus.

Micronutrient Powders (MNP)

MNP are supplements in the form of single-use packets of powder containing vitamins and minerals that can be added to any semi-solid food.[9]

Social and Behavior Change Communication (SBCC)

SBCC interventions are used to raise awareness, reduce misinformation, and address the barriers that prevent individuals, families, and communities from practicing lifesaving behaviors to improve health outcomes.[10] The focus areas of SBCC interventions for nutrition outcomes include:

- Dietary practices during pregnancy and lactation
- Breastfeeding practices
- Complementary feeding practices
- Control and prevention of anemia
- WASH-related behaviors[11]

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[4] Chaparro, Camila M., and Kathryn G. Dewey. "Use of lipid-based nutrient supplements (LNS) to improve the nutrient adequacy of general food distribution rations for vulnerable sub-groups in emergency settings." *Maternal & child nutrition* 6 (2010): 1-69.

[5] "Technical Specifications for Lipid-based Nutrient Supplement-Small Quantity LNS-SQ," World Food Programme, 2020.

[6] "Food Aid Product Description Sheet: Ready-to-Use Therapeutic Food," USAID, 2018.

[7] "Food Aid Product Description Sheet: Ready-to-Use Supplementary Food," USAID, 2018.

[8] "Specialized nutritious food," World Food Programme, accessed July 2021.

[9] "Interventions for Addressing Vitamin and Mineral Inadequacies," USAID, accessed July 2021.

[10] "Social and Behavior Change Interventions," USAID, accessed July 2021.

[11] "Effective At-Scale Nutrition Social and Behavior Change Communication: Technical Guidance Brief," USAID, accessed July2021.

Cash Transfers

Cash transfers are direct payments, often from governments, made to eligible groups of people.

- **Unconditional cash transfer**: made to eligible recipients without any conditions required.
- **Conditional cash transfer**: made on the condition that the recipient meets specified criteria such as school attendance or receiving vaccinations.
- **Labeled cash transfer**: funds are indicated, or "labeled," for a specific purpose, but the conditions are not enforced.[12]

Water, Sanitation, and Hygiene (WASH)

Use of safe water, sanitation facilities, and good hygiene can improve nutritional outcomes by addressing both immediate and underlying causes of malnutrition. Inadequate sanitation is strongly correlated with acute malnutrition and stunting.[13] Many clinical trials targeting malnutrition include WASH interventions as part of multisectoral nutrition programs.

Environmental Enteric Dysfunction (EED)

EED is a disorder of the small intestine that may play a role in the etiology and treatment of MAM and SAM.[14] It is thought to result from chronic exposure to environmental pathogens and toxins and may lead to impaired growth through malabsorption of nutrients and chronic systemic inflammation.[15] Ongoing trials involve nutritional supplements, water and sanitation interventions, and immunomodulators to better address this condition.[16]

Locally Produced Foods

Locally produced food aid products are prepared with local resources such as soy, millet, corn, peanuts, eggs, and insects to supplement or replace traditional specialized nutritious food products (SNFPs).[1]

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[12] IPA "Cash Transfers," Innovations for Poverty Action, accessed July 2021.

[13] "WASH and Nutrition: Water and Development Strategy & Implementation Brief." USAID. 2015.

[14] Singh, Akriti, Breanne Langlois, Stacy Griswold, Ye Shen, Ilana Cliffer, Isabel Potani, Devika Suri et al. "Comparative Cost-effectiveness of Four Supplementary Foods in Treating Moderate Acute Malnutrition in Children 6-59 Months in Sierra Leone- Section 3: Environmental Enteric Dysfunction Sub-Study." (2020). Report to USAID. *Boston, MA: Tufts University.*

[15] Campbell, Rebecca K., Kerry J. Schulze, Saijuddin Shaikh, Rubhana Raqib, Lee SF Wu, Hasmot Ali, Sucheta Mehra, Keith P. West, and Parul Christian. "Environmental enteric dysfunction and systemic inflammation predict reduced weight but not length gain in rural Bangladeshi children." *British Journal of Nutrition* 119, no. 4 (2018): 407-414.

[16] Crane, Rosie J., Kelsey DJ Jones, and James A. Berkley. "Environmental enteric dysfunction: an overview." *Food and nutrition bulletin* 36, no. 1_suppl1 (2015): S76-S87.

Plant-Based Food

In U.S. food aid, plant-based foods are intended as protein sources and include foods such as legumes (e.g., soybeans, lentils) or more processed canola protein, defatted soy flour, and pea concentrate.[17]

Animal-Source Food (ASF)

Animal-source foods include dairy products (milk, yogurt, cheese), fish, eggs, organ meats, flesh foods, and other miscellaneous small animal protein (e.g., grubs, insects).[18]

Of the 360 published studies, over half include interventions using LNS (**Figure 2**). On the REFINE website, these studies can be filtered by users to examine publications within a specific scope, such as studies that aim to determine the effectiveness of locally produced ingredients or studies measuring a specific outcome.

Figure 2. Breakdown of Interventions Used in Publications on REFINE

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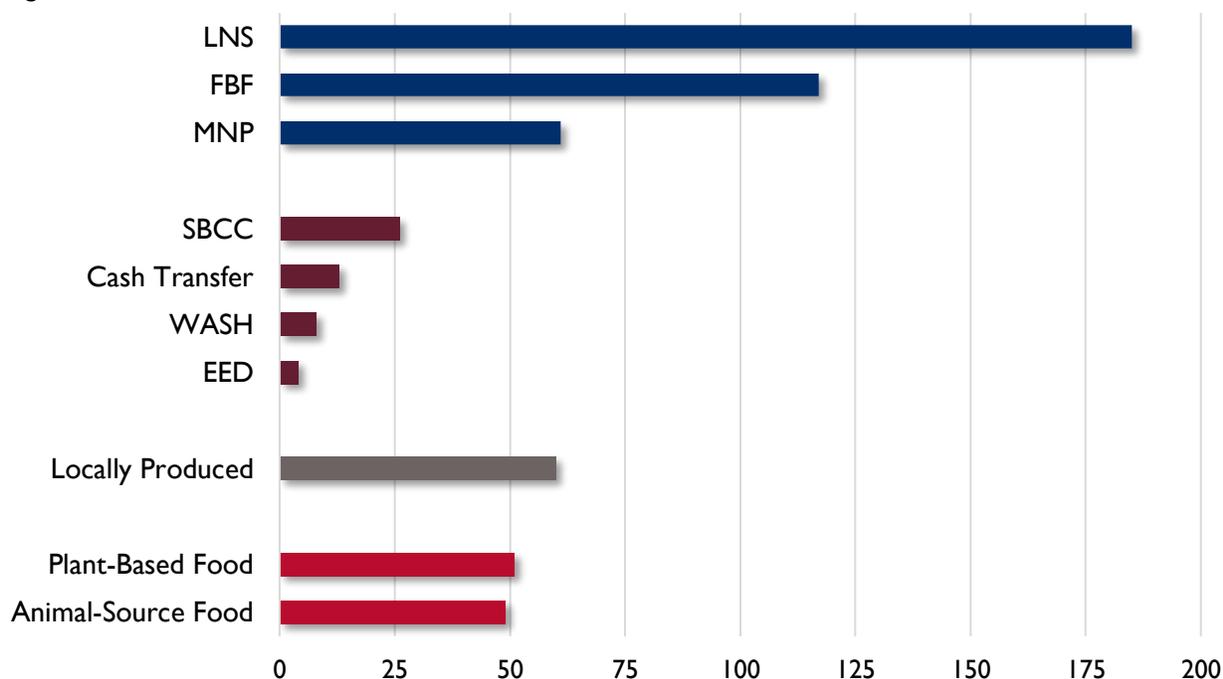
[17] Joseph, M., S. Alavi, Q. Johnson, F. Mohamedshah, S. Walton, and P. Webb. "Improving the nutritional value of foods in the USAID food aid basket: Optimization of macro and micronutrients, food matrices, novel ingredients, and food processing technologies." *Report to USAID* (2018). Tufts University, Boston, MA

[18] USAID "Nutrition-Sensitive Agriculture: Nutrient-Rich Value Chains: Technical Guidance Brief," accessed July 2021.

RESEARCH GAPS TARGETED

REFINE research gaps were defined in 2015 based on a literature review and consultation with senior members of the FAQR staff. REFINE monitors seven research gaps:

Acceptability
- Which food products do recipients enjoy eating and have the fewest side effects?
- Which food products are culturally acceptable in a particular context?

Composition
- How do specific ingredients contribute to prevention or treatment of malnutrition?
- Do animal or plant source foods perform differently in achieving growth outcomes?
- Do cereals or lipid-based products perform differently in achieving growth outcomes?

Cost
- What are the relative costs of different food aid products or programs in achieving nutritional outcomes?
- Which products are the most cost-effective at improving nutritional outcomes?
- What are the beneficiary costs associated with food aid products?

Effectiveness
- How well do different food products and nutrition interventions prevent or treat undernutrition when implemented in real world conditions?

Efficacy
- How well do different food products and nutrition interventions prevent or treat undernutrition when implemented in a completely controlled environment?

Innovation
- What novel specialized nutritious food aid products effectively treat and prevent malnutrition?
- What specific programmatic components (cash, social and behavior change communication (SBCC), nutrition education, etc.), combined with SNFPs, effectively treat and prevent malnutrition?

Use
- How are supplementary foods distributed?
- To what degree and how are supplementary foods shared within a household or community?
- How does the actual use of food assistance products differ from intended use?

IDENTIFICATION METHODS

The workflow for identifying relevant resources is as follows:

1. Search for new, relevant **ongoing studies**
   a. Review RSS feeds
      i. U.S. Clinical Trials Registry
      ii. EU Clinical Trials Registry
   b. Manually search
      i. International Standard Randomised Controlled Trial (ISRCT) Registry
      ii. International Clinical Trials Registry Platform (ICTRP)
   c. Check the REFINE Gmail for ongoing study suggestions from the REFINE website users.

2. Search for new, relevant **published studies**
   d. Review RSS feeds or search manually
      i. PubMed
      ii. Web of Science
   e. Check REFINEnutrition@gmail.com for suggestions of completed studies from the REFINE website.
   f. Check email notifications from organizations such as the Agriculture, Nutrition, and Health (ANH) Academy, USAID Advancing Nutrition, and the Abdul Latif Jameel Poverty Action Lab (J-PAL) for additional resources that match the REFINE criteria.
   g. Scroll through the REFINE twitter feed for postings about recent publications.

3. Screen for Inclusion
   h. Each resource identified through the search terms is then screened to ensure it fits the criteria for REFINE. Accepted resources are added to a spreadsheet and the REFINE repository, and then disseminated through the Resource Review and Twitter.

UPDATING SEARCH TERMS

In 2020, the FAQR team conducted a review of the keywords associated with recent food assistance for nutrition publications and ongoing trials to determine whether the search terms used to identify appropriate resources to add to the REFINE database each month needed to be updated. As a result of this review, several additional search terms and abbreviations for existing search terms were added to the monthly search to identify new resources to add to REFINE.

These search terms included severe and moderate acute malnutrition, low birth weight, nutrition intervention, ready-to-use therapeutic food, complementary food, micronutrient supplement or powder, and associated acronyms. The REFINE search terms for ongoing trials and published studies should continue to be evaluated and updated on a regular basis so that REFINE continues to evolve in parallel with international food assistance for nutrition research.

V. DISSEMINATION

RESOURCE REVIEW

To facilitate greater transparency in food assistance research and promptly disseminate research results, the REFINE team developed a system for sending out quarterly resource updates. These have been shared to the REFINE stakeholder email list and through a dedicated Twitter account (@REFINEnutrition) since 2019, as well as through the mailing lists of partner organizations, including the Agriculture-Nutrition Community of Practice (Ag2Nut) and CORE Group's Nutrition Working Group.

The online platform is updated monthly, and the Resource Review is sent out during the first week of **January, April, July, and October.** Each quarter, a PDF is sent to external listservs and adapted to Constant Contact for the FAQR mailing list. Additionally, current and previous Resource Reviews can be found on the About Us tab of the REFINE website.

Unlike other resource dissemination platforms and mailing lists, such as the USAID Advancing Nutrition's Multi-Sectoral Nutrition Resource Review, the REFINE Resource Review is specifically focused on food assistance and on evidence drawn from clinical trials.[19] Each resource is examined using the specified inclusion criteria to ensure that it fits within REFINE's scope and then tagged for characteristics that make it possible to filter the repository for enhanced useability. Users are encouraged to contact REFINE with additional resources that may be of interest to the food assistance community.

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[19] USAID Advancing Nutrition's Multi-Sectoral Nutrition Resource Review, Accessed July 2021.

TWITTER

Twitter is a powerful tool for research dissemination and provides a strong community of global nutrition practitioners. As resources are added to REFINE, tweets are the most immediate method of sharing them with the international nutrition community. Additionally, a tweet linked to the most recent Resource Review is "pinned" for REFINE Twitter followers (**Figure 3**).

To promote REFINE and encourage engagement with the platform, several hashtags are used in tweets. These include**:**

#malnutrition	#foodassistance	#USAID	#nutrition	#hunger
#globalhealth	#publichealth	#funding	#foodsecurity	#LMICs
#research	#evidence	#nourishtheSDGs	#SDG2	#betterfoodaid
#evidence4nutrition	#foodaid			

Figure 3. REFINE Twitter Header and Pinned Tweet

To track social media engagement and the use of the REFINE website, analytics are performed by the REFINE manager each quarter. The REFINE twitter account has 408 followers as of June 2021 (**Figure 4**).

Figure 4. REFINE Twitter Trends, January 2017 through June 2021
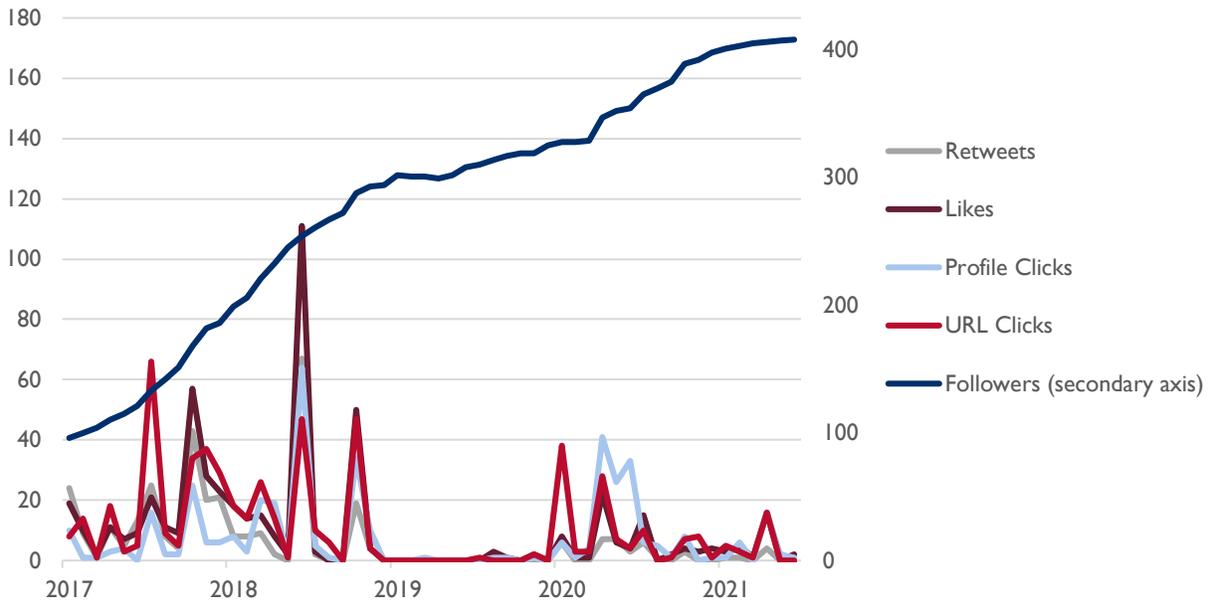
Examining Google Analytics, the REFINE website traffic drastically increases when the Resource Review is published due to the hyperlinks to the resources housed on the site (**Figure 5**).

Figure 5. REFINE Users, January through June 2021

VI. LEVERAGING THE REFINE PLATFORM

As of June 30, 2021, 84 clinical trials, 360 published studies, and 116 additional resources have been tracked, added to REFINE, and disseminated through Resource Reviews. Of the 84 clinical trials that have been tracked on REFINE, 17 are ongoing. Given the number and scope of resources within the REFINE repository (**Figures 1 and 2**), the platform can be used as a tool for research activities. For example, in 2019 the FAQR team used the REFINE database to develop literature reviews and published two analyses which identified areas for further research related to food interventions and analyzed current methods in food assistance research.[20,21]

In 2020, the FAQR team completed a desk study that aimed to leverage open access data from studies of food assistance for nutrition housed on the REFINE website for studies combining datasets from multiple studies.

The specific goals of the review were to:
1. Locate and obtain open access primary datasets from published research studies catalogued in the REFINE database in the last five years;
2. Compare study designs and open access dataset outcome measures assessed by these studies to identify research questions with the potential to be addressed by pooled analyses;
3. Compile and harmonize datasets in a standard format conducive to such analyses; and
4. Provide insight and recommendations for future data-sharing practices and policies to be considered by USAID and other research funders.

The effort encountered considerable challenges due to the lack of studies with open access data policies. The FAQR team found that most underlying datasets of recent studies related to food assistance for nutrition are not open access. For the few that did have open access data sets, the FAQR team assessed whether the available datasets adhered to the FAIR (findable, accessible, interoperable, and reusable) principles.[22]

Findable   Accessible   Interoperable   Reusable

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[20] Caiafa, Kristine, Maria Wrabel, Devika Suri, Ye Shen, Shelley Walton, Beatrice Lorge Rogers, and Patrick Webb. "A review of research methods used to study specialised nutritious foods." *Field Exchange 62* (2020): 41.

[21] Wrabel, Maria, Kristine Caiafa, Beatrice Lorge Rogers, and Patrick Webb. "Food aid for nutrition: A landscape review of current research and implications for future studies." *Field Exchange 62* (2020): 38.

[22] Wilkinson, Mark D., Michel Dumontier, IJsbrand Jan Aalbersberg, Gabrielle Appleton, Myles Axton, Arie Baak, Niklas Blomberg et al. "The FAIR Guiding Principles for scientific data management and stewardship." *Scientific data* 3, no. 1 (2016): 1-9.

As funding organizations increasingly require their partners to make data open access, they recommend that partners adhere to the FAIR principles that require open data to be findable, accessible, interoperable and reusable. Making research data publicly available can increase transparency, accessibility, and maximization of the use of existing data. Datasets that are open access are usually findable and accessible but not always interoperable and reusable. Key recommendations for funders were identified for future research initiatives to improve the FAIRness of datasets:

1. Prospective Planning for Data Sharing
   - Require a detailed data management plan (DMP) for data sharing procedures that includes data collection methods, defined roles for research staff assigned to data archival, and plans for long-term accessibility of data.
   - Provide a mechanism for evaluation of DMPs and training for evaluators.
   - Require that participant consent forms include a statement of intent to share de-identified data.

2. Curation of Data for Dissemination, Repository Deposition, and Inclusion of Accompanying Documentation
   - Specify timeframe to archive underlying data following article publication.
   - Ensure datasets are comprehensive and de-identified by providing documentation needed for interpretation of dataset contents, including codebooks, replication code, and study protocols detailing when and how datasets were collected.
   - Require partners to archive complete datasets in a publicly accessible database and clarify preferred location.
   - Monitor data sharing compliance by confirming datasets have been appropriately archived by the deadline and following up with non-compliant partners.

For more details on this work and how REFINE may be used to optimize the use of data for nutrition research, see the full report, _The Potential Value-Added to USAID of Open Access Data on Food Assistance for Nutrition: An Analysis of Research Publications Archived on the REFINE Database_.[23]

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[23] Thompson, Lauren, Audrey Karabayinga, Beatrice Rogers, and Patrick Webb. "The Potential Value-Added to USAID of Open Access Data on Food Assistance for Nutrition: An Analysis of Research Publications Archived on the REFINE Database." (2021).

VII. FUTURE PRIORITIES

When REFINE was initiated in 2012, efforts were focused on tracking clinical trials from the early stages through the publication of results. Over the years, the REFINE team has learned what is most useful to the food assistance community and how best to share this information. Today, the focus of REFINE is on keeping the repository updated and relevant, and sharing these resources through Twitter and the REFINE Resource Review.

For sustainably maintaining REFINE as a repository of food assistance for nutrition resources, managers should continue to conduct quarterly reviews of ongoing trials, published studies, and other relevant articles and documents related to research on food assistance for nutrition. Future managers should continue to share new resources uploaded to the REFINE database through the stakeholder mailing list, the listservs of relevant partner organizations, and the REFINE Twitter account, as well as other venues whenever possible.

To enhance learning and knowledge management among humanitarian actors, and to support the uptake and utilization of research findings to address the *Global Action Plan on Child Wasting,* REFINE could be expanded in a number of ways:[24]

SHORT-TERM EXPANSION

Expand systematic search criteria to include nutrition-sensitive interventions:

- Include social safety net interventions like vouchers, agricultural assistance, child development, maternal education and mental health, health care access, and family planning.

Promote FAIR practices within the nutrition research community:

- Implement recommendations to improve FAIRness of open data related to prospective planning for data sharing and curation of data for dissemination, repository deposition, and inclusion of accompanying documentation on REFINE.

Archive underlying datasets in alongside corresponding scientific journal publications:

- Data sharing is increasingly required by research funders worldwide. A platform that can house and organize research datasets related to nutrition assistance that become open access would have the potential to facilitate further use of such data. Examples of open access study data repositories include the Clinical Epidemiology Resources Database and

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[24] "Global Action Plan on Child Wasting: A framework for action to accelerate progress in preventing and managing child wasting and the achievement of the Sustainable Development Goals." World Health Organization. Accessed July 2021.

the Harvard Dataverse.[25, 26] The REFINE repository has the potential to maximize the utility and reach of research data by expanding to an open access data library that can be accessed, explored, and downloaded by investigators and research partners.

LONG-TERM EXPANSION

Form a consortium of collaborators to facilitate the creation of a large global research dataset and dashboard for malnutrition outcomes and key indicators:

- Using advance statistical modelling methods, REFINE managers could build a database of research data to identify and fill data gaps, as well as identify and address research questions. Developing a dashboard would require REFINE to collaborate with research partners to track the progress of health goals and food assistance interventions. Examples of data dashboards that aim to help researchers and practitioners visualize and understand information for complex systems include the WHO Global Health Observatory and the Food Systems Dashboard.[27, 28] A comparable REFINE resource would focus on food assistance and on nutrition outcomes, as described above.

Facilitate evaluation of new evidence by periodic grading of evidence:

- Scientific leaders and global health practitioners might partner with REFINE and come together periodically to evaluate and grade new evidence according to a rigorous, formal framework. Findings can then be curated by intervention type on the online platform and compared by strength of evidence. In the health care field, Cochrane Reviews attempt to identify, appraise, and synthesize all the empirical evidence that meet pre-specified eligibility criteria to answer a specific research question.[29] To fill this gap in the food assistance and development sector, REFINE could expand to conduct systematic reviews to evaluate existing evidence and inform decision-making.

Translate evidence to practice:

- Future hosts of REFINE could create evidence-to-practice documents that discuss recent research findings and quality of evidence and consider how this might influence practice. Documents could be archived on the online platform.

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[25] "Clinical Epidemiology Database (ClinEpiDB)," Accessed July 2021.
[26] "Harvard Dataverse Repository," *Harvard Dataverse*, accessed July 2021.
[27] "Global Health Observatory," *World Health Organization*, accessed July 2021.
[28] "Food Systems Dashboard," *Johns Hopkins University (JHU) and The Global Alliance for Improved Nutrition (GAIN)*, accessed July 2021.
[29] "Cochrane Library," Accessed July 2021.

REFERENCES

1. Clinical Epidemiology Database (ClinEpiDB). Accessed July 2021.
   https://clinepidb.org/ce/app/

2. Caiafa, Kristine, Maria Wrabel, Devika Suri, Ye Shen, Shelley Walton, Beatrice Lorge
   Rogers, and Patrick Webb. "A review of research methods used to study specialised
   nutritious foods." *Field Exchange 62* (2020): 41.
   https://www.ennonline.net/attachments/3518/FEX-62-Web_8Apr2020_41-43.pdf

3. Campbell, Rebecca K., Kerry J. Schulze, Saijuddin Shaikh, Rubhana Raqib, Lee SF Wu,
   Hasmot Ali, Sucheta Mehra, Keith P. West, and Parul Christian. "Environmental enteric
   dysfunction and systemic inflammation predict reduced weight but not length gain in rural
   Bangladeshi children." *British Journal of Nutrition* 119, no. 4 (2018): 407-414.
   https://www.cambridge.org/core/services/aop-cambridge-
   core/content/view/5941FF9A4C23D3B639E42D679161D83A/S0007114517003683a.pdf/env
   ironmental-enteric-dysfunction-and-systemic-inflammation-predict-reduced-weight-but-not-
   length-gain-in-rural-bangladeshi-children.pdf

4. Chaparro, Camila M., and Kathryn G. Dewey. "Use of lipid-based nutrient supplements
   (LNS) to improve the nutrient adequacy of general food distribution rations for vulnerable
   sub-groups in emergency settings." *Maternal & child nutrition* 6 (2010): 1-69.
   https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6860843/

5. Cochrane Library. Accessed July 2021. https://www.cochranelibrary.com/

6. Crane, Rosie J., Kelsey DJ Jones, and James A. Berkley. "Environmental enteric dysfunction:
   an overview." *Food and nutrition bulletin* 36, no. 1_suppl1 (2015): S76-S87.
   https://pubmed.ncbi.nlm.nih.gov/25902619/

7. "EU Clinical Trials Register," accessed July 2021. https://www.clinicaltrialsregister.eu/

8. Harvard Dataverse. "Harvard Dataverse Repository." Accessed July 2021.
   https://dataverse.harvard.edu/

9. Innovations for Poverty Action (IPA). "Cash Transfers." Accessed July 2021.
   https://www.poverty-action.org/topics/cash-transfers

10. "International Standard Randomised Controlled Trial Number (ISRCTN) Registry." *BMC*.
    Accessed July 2021. https://www.isrctn.com/

11. Johns Hopkins University (JHU) and The Global Alliance for Improved Nutrition (GAIN).
    "Food Systems Dashboard." Accessed July 2021. https://foodsystemsdashboard.org/

12. Joseph, M., S. Alavi, Q. Johnson, F. Mohamedshah, S. Walton, and P. Webb. "Improving the
    nutritional value of foods in the USAID food aid basket: Optimization of macro and
    micronutrients, food matrices, novel ingredients, and food processing technologies." *Report
    to USAID* (2018). Tufts University, Boston, MA.
    https://pdf.usaid.gov/pdf_docs/PA00T7SW.pdf

13. Lenters, L., K. Wazny, and Z. A. Bhutta. "Chapter 11. Management of severe and moderate
    acute malnutrition in children." *Disease Control Priorities: Reproductive, Maternal, Newborn, and*

Child Health; The World Bank: Washington, DC, USA 2 (2016).
https://www.ncbi.nlm.nih.gov/books/NBK361900/#part2.ch11.ref-list1.cit73

14. "PubMed," *NIH National Library of Medicine*, accessed July 2021.
https://pubmed.ncbi.nlm.nih.gov/

15. Singh, Akriti, Breanne Langlois, Stacy Griswold, Ye Shen, Ilana Cliffer, Isabel Potani, Devika Suri et al. "Comparative Cost-effectiveness of Four Supplementary Foods in Treating Moderate Acute Malnutrition in Children 6-59 Months in Sierra Leone- Section 3: Environmental Enteric Dysfunction Sub-Study." (2020). Report to USAID. *Boston, MA: Tufts University.* https://pdf.usaid.gov/pdf_docs/PA00XCW5.pdf

16. Thompson, Lauren, Audrey Karabayinga, Beatrice Rogers, and Patrick Webb. "The Potential Value-Added to USAID of Open Access Data on Food Assistance for Nutrition: An Analysis of Research Publications Archived on the REFINE Database." (2021).
https://pdf.usaid.gov/pdf_docs/PA00XHC3.pdf

17. USAID. "Advancing Nutrition's Multi-Sectoral Nutrition Resource Review," Accessed July 2021. www.advancingnutrition.org/resources/resource-review

18. USAID. "Effective At-Scale Nutrition Social and Behavior Change Communication: Technical Guidance Brief." *U.S. Agency for International Development.* (2021).
https://www.usaid.gov/global-health/health-areas/nutrition/technical-areas/effective-scale-nutrition-social-and-behavior

19. USAID. "Food Aid Product Description Sheet: Ready-to-Use Supplementary Food." *U.S. Agency for International Development.* (2018).
https://www.usaid.gov/sites/default/files/documents/1866/FoodAidProduct_InfoGuide_2020.pdf#page=16

20. USAID. "Food Aid Product Description Sheet: Ready-to-Use Therapeutic Food." *U.S. Agency for International Development.* (2018).
https://www.usaid.gov/sites/default/files/documents/1866/FoodAidProduct_InfoGuide_2020.pdf#page=17

21. USAID. "Interventions for Addressing Vitamin and Mineral Inadequacies." *U.S. Agency for International Development.* September 18, 2019. Accessed July 2021.
https://www.usaid.gov/global-health/health-areas/nutrition/technical-areas/micronutrients-brief

22. USAID. "Nutrition-Sensitive Agriculture: Nutrient-Rich Value Chains: Technical Guidance Brief." *U.S. Agency for International Development.* (2021). https://www.usaid.gov/global-health/health-areas/nutrition/technical-areas/nutrition-sensitive-agriculture-nutrient-rich-value-chains

23. USAID. "Social and Behavior Change Interventions." *U.S. Agency for International Development.* (2021). https://www.usaid.gov/what-we-do/global-health/cross-cutting-areas/social-and-behavior-change

24. USAID. "WASH and Nutrition: Water and Development Strategy & Implementation Brief." *U.S. Agency for International Development.* (2015).
https://www.usaid.gov/sites/default/files/documents/1864/wash-nutrition-508.pdf

25. "Web of Science." Accessed July 2021. https://webofknowledge.com/

26. Wilkinson, Mark D., Michel Dumontier, IJsbrand Jan Aalbersberg, Gabrielle Appleton, Myles Axton, Arie Baak, Niklas Blomberg et al. "The FAIR Guiding Principles for scientific data management and stewardship." *Scientific data* 3, no. 1 (2016): 1-9. https://www.nature.com/articles/sdata201618

27. World Food Programme (WFP). "Specialized nutritious food." *World Food Programme.* (2021). https://www.wfp.org/specialized-nutritious-food

28. World Food Programme (WFP). "Technical Specifications for Lipid-based Nutrient Supplement - Small QuantityLNS-SQ." *World Food Programme.* 2020. https://docs.wfp.org/api/documents/WFP-0000106806/download/

29. World Health Organization (WHO). "Global Action Plan on Child Wasting: A framework for action to accelerate progress in preventing and managing child wasting and the achievement of the Sustainable Development Goals." *World Health Organization.* Accessed July 2021. https://www.who.int/publications/m/item/global-action-plan-on-child-wasting-a-framework-for-action

30. World Health Organization (WHO). "Global Health Observatory." Accessed July 2021. https://www.who.int/data/gho

31. Wrabel, Maria, Kristine Caiafa, Beatrice Lorge Rogers, and Patrick Webb. "Food aid for nutrition: A landscape review of current research and implications for future studies." *Field Exchange 62* (2020): 38. https://www.ennonline.net/attachments/3517/FEX-62-Web_8Apr2020_38-40.pdf