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The Future of Food Assistance for Nutrition: Evidence Summit II

Summary of Discussions, Key Findings, and Conclusions

A Report from the Food Aid Quality Review

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ACRONYMS

ACDI/VOCA	Agriculture Cooperative Development International/Volunteers in Overseas Cooperative Assistance
ACF	Action Contre la Faim/Action Against Hunger
ARS	Agricultural Research Department (USDA)
BHA	Bureau for Humanitarian Assistance (USAID)
CARE	Cooperative for Assistance and Relief Everywhere
CHW	Community Health Worker
CLTS	Community-Led Total Sanitation
CMAM	Community-based Management of Acute Malnutrition
CODA	Conditional On-Demand Assistance
ComPAS	Combined Protocol for Acute Malnutrition Study
CORTASAM	Council of Research & Technical Advice on Acute Malnutrition
COVID-19	Coronavirus
CVA	Cash and Vouchers Assistance
DIAAS	Digestible Indispensable Amino Acid Score
EAR	Estimated Average Requirement
EED	Environmental Enteric Dysfunction
ENN	Emergency Nutrition Network
FACET4SNF	Food Assistance Cost-Effectiveness Tool for Specialized Nutritious Foods
FAO	Food and Agriculture Organization
FAQR	Food Aid Quality Review
FBF	Fortified Blended Foods
FDA	Food and Drug Administration
FEMA	U.S. Federal Emergency Management Agency
FFH	Food for the Hungry
GAIN	Global Alliance for Improved Nutrition
GAVI	Global Alliance for Vaccines and Immunization
Hi-MAM	High-risk Moderate Acute Malnutrition
HKI	Helen Keller International
IFPRI	International Food Policy Research Institute
IPD	Individual Participant Data
IRC	International Rescue Committee
LMIC	Lower and Middle Income Countries
LNS	Lipid-based Nutrient Supplement
MAM	Moderate Acute Malnutrition
MDCF	Microbiota-directed Complementary Food
MERIAM	Modelling Early Risk Indicators to Anticipate Malnutrition

MILP	Mixed Integer Linear Programming
MMD	Minimum Dietary Diversity
MSF	Médecins Sans Frontières/Doctors Without Borders
MUAC	Middle Upper Arm Circumference
NEWSUP	New Food Supplement
NGO	Non-governmental Organization
NWL	No Wasted Lives
PLW	Pregnant and Lactating Women
PPE	Personal Protective Equipment
QR	Quick Response
RCT	Randomized Control Trial
RDA	Recommended Daily Allowance
RNI	Required Nutrient Intake
RUSF	Ready-to-use Supplemental Food
RUTF	Ready-to-use Therapeutic Food
SAGL	Southern African Grain Laboratory
SAM	Severe Acute Malnutrition
SBCC	Social and Behavior Change Communication
SMS-RUTF	Soy-Maize-Sorghum-based Ready-to-use Therapeutic Food
SNF	Supplemental Nutritious Food
SPIR-DFSA	Strengthen PSNP4 Institutions and Resilience Development Food Security Activity
SPS	Sanitary and Phytosanitary
SQ-LNS	Small Quantity Lipid-based Nutrient Supplement
UL	Upper Limit
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
VSLA	Village Savings and Loans Associations
WAP	Weighted Average Price
WASH	Water Sanitation and Hygiene
WaSt TIG	Wasting-Stunting (WaSt) Technical Interest Group (TIG)
WFP	World Food Programme
WHNRC	Western Human Nutrition Research Center (USDA)
WHO	World Health Organization
WTO	World Trade Organization

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BACKGROUND

Food Aid Quality Review

Since 2009, the Food Aid Quality Review (FAQR) has been providing 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 direct distribution of food aid can make a significant impact. FAQR Phase I recommendations were published in *Delivering Improved Nutrition: Recommendations for Changes to U.S. Food Aid Products and Programs*. This report led to FAQR Phase II's focus on reformulating fortified blended foods (FBFs), the inclusion of lipid-based products in BHA's commodity list and testing new products under field conditions. A full summary of FAQR Phase II accomplishments is highlighted in the *Food Aid Quality Review Phase II Closeout Report*.

FAQR Phase III focuses on generating links between research on food product formulation and recommendations on cost-effective programming and policy-level action among national and multilateral institutions engaged in food assistance. Tufts University's Friedman School of Nutrition Science and Policy is working closely with domestic and international collaborators, including USAID, the United States Department of Agriculture (USDA), and United Nations (UN) partners, all of whom are committed to strengthening the evidence base for the use of specialized nutritious foods (SNFs) for targeted nutrition goals. The work of FAQR Phase III is framed under three major topics of products, programming, and processes and how they relate to food aid.

2018 Food Assistance for Nutrition Evidence Summit

During Project Year 3 of Phase III, FAQR hosted a first *Food Assistance for Nutrition Evidence Summit* on June 27th and 28th, 2018 in Washington, D.C, which focused on sharing of the state of evidence regarding food assistance for nutrition programming with a total of 250 attendees. Priority action items that emerged from this meeting include:

1. More research funding is required for careful studies that document best practice for food assistance in all humanitarian contexts, with particular attention to measurable impacts on maternal and child nutrition.
2. Metrics of nutritional status need to go beyond physical growth of children to include brain development, gut health, and body composition to provide a physiological understanding of malnutrition.
3. Multi-sectoral and multi-institutional collaboration and communication must be enhanced. No one donor, government or agency can effectively operate alone.
4. Innovations should be promoted in product formulations, food packaging technology, food safety and quality, and food aid supply chain optimization tools.
5. Investments should increase in advanced data systems to capture reliable and comprehensive food assistance trends.

THE FUTURE OF FOOD ASSISTANCE FOR NUTRITION: EVIDENCE SUMMIT II

At the request of USAID/BHA, the FAQR team planned a second Evidence Summit in 2020 to showcase new evidence generated since the 2018 event, and also to emphasize what evidence is still needed to improve food assistance for nutrition. *The Future of Food Assistance for Nutrition: Evidence Summit II* was held from October 5th through 8th, 2020 and brought together practitioners,

policymakers, industry professionals, program funders, and researchers to share and discuss new evidence from the past two years, prioritize future evidence needs, and consider how we can collaborate to support more cost-effective programming aimed at improving nutrition in the context of food assistance interventions of all kinds.

Due to the COVID-19 pandemic, the *Evidence Summit II* was held live online, which allowed USAID/BHA and the FAQR team to reach a much larger group of participants from a wider range of organizations and geographic locations than the first Summit in 2018. The four-day event was attended by a total of 740 people representing 62 countries, including 43 low- and middle-income countries (LMIC), and featured 103 speakers from a wide variety of organizations engaged in food assistance for nutrition representing academic institutions, international organizations, non-governmental organizations, research institutes, and the private sector. The *Evidence Summit II* virtual event hub can be accessed at evidencesummit2.wordpress.com. Session recordings and presentation slides can be found there and in each respective session summary within the following report.

PROGRAM FOR EVIDENCE SUMMIT II

The Summit opened and closed with welcoming remarks and keynote addresses from USAID/BHA senior staff members, including Assistant to the Administrator Trey Hicks and Acting Deputy Assistant to the Administrator Matthew Nims. The program also consisted of five plenary sessions related to new science, continuum of care, strategies, logistics, and knowledge gaps. A description of each of these sessions can be found in **Table I**, and more details about each of the presentations can be found in the **Plenaries** session summaries.

Table I: Description of Plenary Sessions at Evidence Summit II

Plenary I: What Does New Science Tell Us about Food Assistance for Nutrition?
This plenary was centered on novel scientific advances in our understanding of childhood malnutrition and considered evidence-based strategies for its treatment. The discussion detailed possible biological mechanisms that underlie deficits in the growth of children due to malnutrition. Highlighted themes included enteric health and the gut microbiome, as well as the role of protein as a biological promoter of child growth and nutritional supplementation designed to support cognitive development in the presence of acute malnutrition.
Plenary II: Continuum of Care, Wasting, and Avoiding the MAM/SAM Dichotomy
This session focused on the emerging evidence base for simplified/integrated approaches for the treatment of child wasting along the spectrum of acute malnutrition. It highlighted recent research on assessing cost-effectiveness and noninferiority compared with standard treatment and the relationship between wasting and stunting using longitudinal data. Topics also included an overview of the family MUAC approach for detecting malnutrition, the perspectives on wasting programs, and the universal systems-strengthening approach.
Plenary III: Implications of Treatment and Prevention of Malnutrition Strategies for Food Assistance Programming
This session reviewed the impact that new strategies for preventing and treating malnutrition have on programming for food assistance for nutrition. Discussions highlighted multi-sectoral programming strategies, addressing maternal undernutrition in pregnant and lactating women, and the relationship between wasting and stunting, especially focusing on the need for critical program and study designs to improve scaling and sustainability and targeting at different life stages.
Plenary IV: Adapting Programming and Protecting Logistics for Food Assistance during Pandemics and Other Crises
This session reviewed challenges related to disruptions in the supply chain for food aid products faced during previous emergencies, which included conflict, natural disasters, limited infrastructure, and the Ebola crisis, and how lessons learned can be applied to the current COVID-19 crisis. Feature adaptations included simplified admission criteria, simplified dosage, reduced follow-up visits, treatment by CHWs, securing adequate supplies from a variety of new and existing suppliers, and rapid agricultural market assessments for the tracking of changes in conditions on the ground.
Plenary V: Food Assistance for Nutrition: What Do We Still Need to Know?
This session summarized key information that participants had been exposed to over the course of the Summit and focused on gaps in the current evidence base related to programming for food assistance for nutrition. Themes

discussed during this session consisted of evidence gaps for scaling up, coordinating policies and mandates to best assist beneficiaries, effective platforms and digitalized nutrition, and evidence being put into practice.

In addition to the plenaries, six concurrent panel sessions delved into a range of topics related to food assistance for nutrition, including micronutrients and animal source foods, packaging, alternative formulations, food safety, supply chains, and non-food interventions. A description of each of these sessions can be found in **Table 2** and more details about each of the presentations can be found in the **Panels** session summaries.

Table 2: Description of Concurrent Panel Sessions at Evidence Summit II

Panel 1: Intakes of Micronutrients and Animal Source Foods for Nutrition Outcomes	Panel 2: Packaging of Food Assistance Products: Challenges and Outlook
<p>This session reviewed current scientific evidence related to micronutrients and animal source foods for nutrition. The discussion identified that the use of animal source foods, rich in essential nutrients important for child growth and development and maternal health, can serve as an effective method for meeting unique nutrient needs of vulnerable populations. Additional focus was on how food fortification provides an opportunity to bring these nutrients into the available foods that we know have an impact on health outcomes and how to assess the most effective ways of integrating different kinds of product options into programs.</p>	<p>This session reviewed new and ongoing challenges related to packaging for food aid products, including efforts to make packaging more environmentally sustainable throughout the entirety of the supply chain as well as packaging solutions for extending the shelf life and reducing infestation and waste of food aid products. Panelists highlighted how consideration and development of specialized packaging earlier in the process can provide an opportunity to best tailor the packaging materials to the properties of the food aid products to promote safer and more impactful assistance; however, there is a need for engagement with stakeholders across all sectors and all of the humanitarian supply chain to overcome these challenges.</p>
Panel 3: Alternative Formulations for Food Assistance for Nutrition Products	Panel 4: Food Safety and Naturally Occurring Contaminants in Food Assistance Products
<p>This session covered recent advancements in alternative formulations for food aid products used for the treatment of acute malnutrition. The discussion defined alternative therapeutic foods, provided an overview of the various formulations for specialized nutritious foods (SNFs) that have been scientifically evaluated in recent years, discussed alternative protein sources to be considered in SNFs, and covered details regarding specific novel formulations. Themes of cost-effectiveness and acceptability relating to specifications of these products and implications for programming and policy were considered.</p>	<p>This session examined food safety concerns related to naturally occurring contaminants and the most effective ways of monitoring them. Panelists spoke on recent incidents and subsequent work that has been successful in tracking and regulating these contaminants. Continuous emphasis was placed on the importance of proper risk assessment management and open communication surrounding the evolving nature of naturally occurring contaminants.</p>
Panel 5: Food Assistance Supply Chains and Traceability	Panel 6: Non-Food Interventions and their Impact on Nutrition Outcomes
<p>This session explored recent technological and programming advances related to optimizing humanitarian supply chains for food aid products and improving the ability of suppliers, donors, and implementing partners to track and trace products throughout those supply chains. Considering these current supply chain and traceability efforts, panelists acknowledged it is essential to identify ways to make data accessible for analyses and call upon the necessary stakeholders to implement changes resulting from these efforts.</p>	<p>This session investigated the design and integration of complementary activities in programming for food assistance for nutrition, with an emphasis on emerging evidence on best practices for nutrition outcome optimization in nutrition-sensitive, systems-level approaches. Panelists spoke to specific interventions that showed promising results for the improvement of nutrition outcomes, but also highlighted the challenges faced during development and implementation.</p>

Three special sessions rounded out the program, including a marketplace for new tools and resources, lightning talks related to emerging evidence, and an online poster session. A description of each of these sessions can be found in **Table 3** and more details about each of the presentations can be found in the **Special Sessions** summaries.

Links to featured tools and additional resources that are referenced throughout the following report can be found in [Annex 2: Resources and References](#).

Table 3: Description of Special Sessions at Evidence Summit II

Emerging Evidence Lightning Talks
This special session consisted of diverse topics that highlighted the most recent research related to food assistance for nutrition. Topics discussed included the ongoing research on the use of Microbiota-Directed Complementary Foods (MDCFs) in the treatment of children with moderate acute malnutrition (MAM), complementary feeding using novel sorghum-based extruded fortified blended foods (FBFs), a decentralized model that uses Community Health Workers (CHWs) in the treatment of SAM, and biomarkers of environmental enteric dysfunction (EED) and its effect on growth and recovery from MAM in Sierra Leone.
Tools and Resources Marketplace
This session included an overview of various food assistance tools and resources for improved efficiency and effectiveness in the field of food assistance for nutrition to demonstrate how these tools can add value to attendees' work. Tools and resources featured included the FACET4SNF tool, the REFINE database, the Conditional On-Demand Assistance (CODA) application, and the Cost of Not Breastfeeding Tool.
Online Poster Session
All posters that were displayed during the Evidence Summit highlighted research developed or published within the past two years to help provide relevant and new topics to enhance the evidence base and inform participants on clinical research related to the prevention and treatment of wasting and stunting, development and innovation of specialized nutritious food products, programming strategies and policy implications for food assistance interventions, and novel tools and technologies to improve the efficiency and effectiveness of food assistance for nutrition outcomes.

KEY FINDINGS FROM EVIDENCE SUMMIT II

1. Quality standards and common variables are needed so that results can be compared across studies.
 - Data standardization should have transparency and data sharing agreements to ensure future ability to make use of data and prevent miscommunication.
 - Attention to vulnerable groups, such as pregnant and lactating women and adolescent children, requires cohesive work across all sectors to effectively target and reach those in need.
2. Cost-effective programming is important when trying to secure the most impact possible with limited resources.
 - Better understanding of the totality of programmatic costs can show which cost factors can be reduced and which costs are essential to reach and treat the most children.
 - New tools and resources targeting cost-effective planning and programming have the potential to assist stakeholders throughout all stages of program design and implementation.
3. Food safety and packaging are essential to the quality of food assistance delivery.
 - Packaging should be considered throughout the development process in order to best suit the properties of the product and improve the shelf life for the duration of the supply chain journey.
 - Monitoring and testing of contaminants in food assistance products need to be performed regularly and adapted to potential new risks.
4. Complementary activities could help when food aid products alone are not sufficient.
 - Addressing underlying drivers of wasting and stunting in the community through non-nutrition sectors can increase the potential impact of food assistance programming.
 - Understanding the local context and resources for complementary activities can be worthwhile and be sustainable after a program ends.

5. Increased efficiency is possible when the flow of product is optimized throughout the entire supply chain.
 - Supply chains should be adapted to respond to emergencies while maintaining relevant standards, with adequate planning and risk assessment.
 - Traceability efforts are continuously needed to ensure safety through the last mile.

CONCLUSIONS FROM EVIDENCE SUMMIT II

The *Evidence Summit II* also illuminated key gaps in the current evidence base:

1. **New evidence is needed.** Cost-effectiveness, specifically assessing value for money, is one of the key drivers of forward thinking and has to be understood in terms of empirical evidence of impact under key conditions. The strength of transparency, comparability, and rigor of evidence allows for optimal use in future dialogues.
2. **Dissemination of research.** Practitioners must be involved with disseminating key questions and answers, including additional information needed to better understand relapse.
3. **Increased effectiveness of interventions.** Focus is needed on how to increase impact and decrease the gap between the current state and full effectiveness.
4. **Product formulation and dosage.** Innovative product formulation and dosage specifications need to be explored, including the use of animal source foods and other fortification methods for essential nutrients.
5. **Metrics are needed for measuring nutrition.** Additional approaches for measuring recovery from undernutrition need to be explored, such as body composition and neurocognitive function, to understand the true meaning of full recovery and the potential for relapse.
6. **Continuum of care.** It is critical to think more holistically about programming approaches by breaking down silos between prevention and treatment, wasting and stunting, maternal and child nutrition, and emergency and development responses, as well as the cost-effectiveness of alternatives and added value of complementary activities.

PARTICIPANT SURVEY RESPONSES

Participants were invited to provide feedback through an anonymous online survey both at the end of each day of the program and through a final post-event survey, yielding a total of 5 survey collections. Quantitative and qualitative analytics from survey responses can be found in Annex 3: Participant Survey Analytics. These analytics created an illustration of participant representation by organization, role in relation to food assistance for nutrition, and country of residence, as well as attendance by session. Approximately 96 percent of survey respondents reported they would attend a virtual Evidence Summit similar to this again, with comments stating that the virtual format allowed for greater attendance from those unable to travel to conferences; however, several cited the lack of personal interaction and small-group discussions of in-person events. 98 percent of respondents found that the topics covered in the Evidence Summit were important to understanding food assistance for nutrition, but the opportunity for discussions in breakout rooms was commonly mentioned as a missing piece of connecting participants to fuel constructive learning environments.

Several key takeaways emerged from open-ended survey responses, providing insight for future food assistance research and FAQR activities. Impactful findings from participants included the breadth of expertise available related to food assistance for nutrition from around the world, the importance of

continuum of care considerations in food assistance for nutrition programming, the latest efforts to implement family MUAC in the context of COVID-19, the critical role of micronutrients and amino acids in specialized nutritious foods, and the challenges posed by knowledge gaps and related to responding to changing circumstances. Respondents looked forward to building on discussions related to complementary programs, lessons learned from adapting programs during the pandemic, and interventions to address the nutrition needs of other vulnerable groups, including pregnant and lactating women, people with disabilities, and the elderly, during future events related to food assistance for nutrition.

Participants emphasized that there remains a gap between high-quality research regarding targeted food supplementation and the formulation of evidence-driven programmatic recommendations to guide policymakers. Respondents expressed an eagerness to share information from the Summit with their colleagues and to apply lessons learned in their work, including taking into greater consideration the preferences of recipients when developing or programming food aid products, new alternative product formulations, integrating the latest cost-effectiveness research into designing and implementing programs, and exploring new tools presented at the conference.

AGENDA THEMES

PLENARIES

- I – What Does **New Science** Tell Us?
- II – **Continuum of Care** (Avoiding the MAM/SAM Dichotomy)
- III – Implications of Treatment and Prevention of Malnutrition **Strategies**
- IV – Adapting **Logistics** during Pandemics and Other Crises
- V – Food Assistance for Nutrition: **What Do We Still Need to Know?**



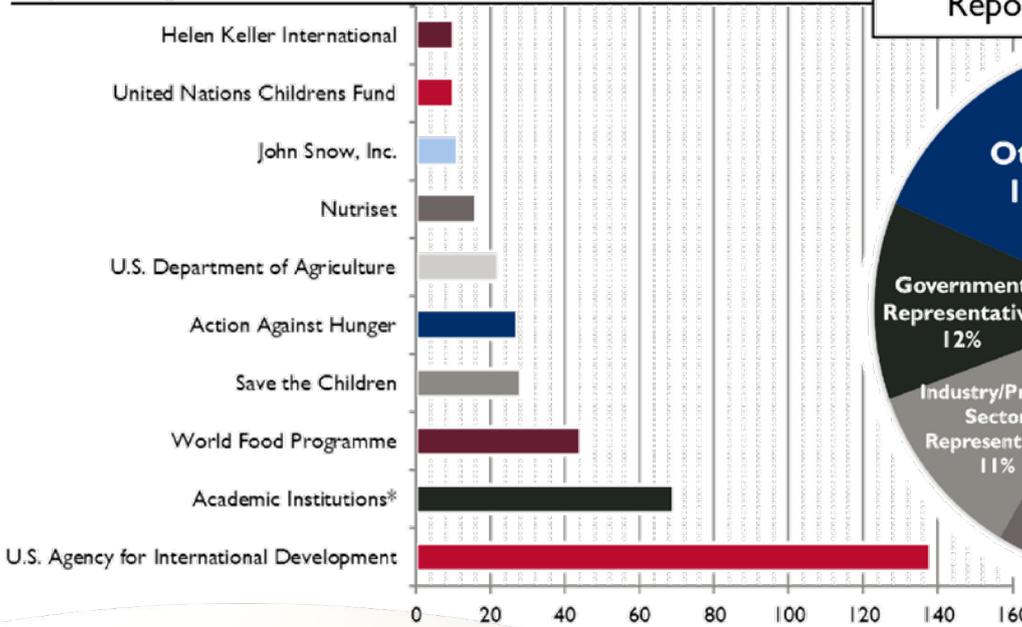
PANELS

- 1 – Intakes of **Micronutrients** and **Animal Source Foods**
- 2 – **Packaging** of Products: Challenges and Outlooks
- 3 – **Alternative Formulations** for Food Assistance
- 4 – **Food Safety** in Food Assistance Products
- 5 – Food Assistance **Supply Chains** and **Traceability**
- 6 – **Non-Food** Interventions and Nutrition Outcomes

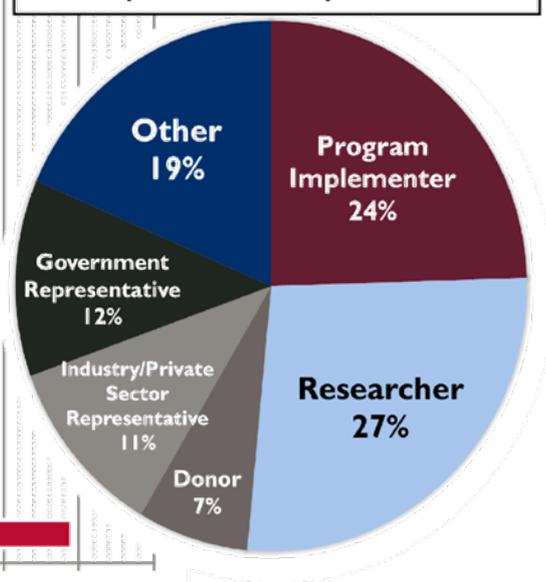
SPECIAL SESSIONS

- Opening Keynote Address
- Tools and Resources Marketplace
- Online Poster Session
- Emerging Evidence Lightning Talks
- Closing Keynote Address

Top 10 Organizations in Attendance



Reported Participant Roles



Attendance by Country



The Evidence Summit II included:

740 Unique Attendees

103 Speakers

62 Countries

43 Low- and Middle- Income Countries

RESOURCES

Visit evidencesummit2.wordpress.com for Access to Event Information, Session Recordings, and Presentation Slides
Contact FAQR at tuftsfaqr@gmail.com

SESSION SUMMARIES

KEYNOTE ADDRESSES

‘How the World Has Changed... Yet Stayed the Same’



Matthew Nims

*Deputy Assistant to the
Administrator*

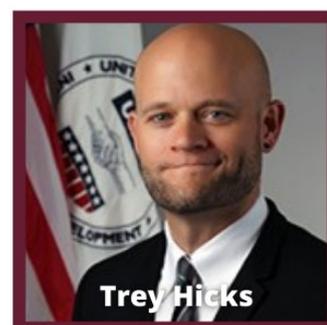


The Opening Keynote Address of the Summit featured Matthew Nims, Deputy Assistant to the Administrator of the USAID Bureau for Humanitarian Assistance (BHA). As a key participant in the first Summit held in 2018, Mr. Nims reflected on how evidence generation and programmatic impacts have progressed over the recent years and highlighted, in many ways, how this conference comes at a pivotal time; addressing how the global pandemic we all are facing together is creating shocks across systems and increasing rates of vulnerability and suffering. High levels of conflict lasting longer paired with historic levels of displaced people moving in the world, layered with COVID-19, are all new challenges being confronted. Mr. Nims stressed how the restructuring of USAID internally aims not only to tackle these new realities as a stronger, more agile and efficient agency, but to continue to prioritize the nutrition objectives and accelerate outcomes,

recognizing that food and nutrition are not separate from other needs during or after a humanitarian disaster. As stated in the Multi-Sectoral Nutrition Strategy in 2014, USAID remains committed to contributing to a 20 percent global reduction in chronic malnutrition, measured by stunting, by the year 2025, as well as the constant commitment to learning and improving. Today’s global food and nutrition crisis demands more action and more interlinking than in the past, and this virtual space has brought together many people, from so many different sectors, who are passionate for nutrition and what it takes to safeguard the lives of children. It is not only great food; it is the combination of great food, research, partners, and approaches that is necessary in order to make the difficult decisions to make changes.

‘Keeping Focused and Setting our Sights Higher: The Next Steps’

The Summit Closing Keynote Address featured Trey Hicks, Assistant to the Administrator of USAID Bureau for Humanitarian Assistance (BHA). With a decade of experience in the U.S. Congress coupled with his time at USAID, Mr. Hicks offered unique insight into food assistance and its modernization. Concluding the Summit by highlighting the hundreds of participants engaged over the course of this week from across the world, Mr. Hicks affirmed that dialogues like these matter and the sharing of new findings from research, innovations, and best practice are essential if we are to achieve greater impact. Even before the global pandemic challenges were large, the humanitarian and development needs of vulnerable populations remain high and have only been increasing, but successes can be seen in the climbing rates of US production, procurement, and programming of specialized nutritious foods (SNF) and in the expansion of treatment coverage across partners. Mr. Hicks proclaimed that as a community we must come together, taking what has been learned in this meeting, to quickly roll out simpler ways to find and treat malnourished children and maintain focus on empowering whole families and whole communities in this battle. It is important to take this moment, both to celebrate the incredible advances we have made in understanding undernutrition and developing tools to address it, while ensuring continued work identifying ways to use the evidence to galvanize renewed action for nutrition and to scale up these tools for the greatest impact.



Trey Hicks

*Assistant to the
Administrator*



WELCOME SPEAKERS



Amy Tohill-Stull

Deputy Assistant to the Administrator



WELCOME DAY 1

“With so many people in this space and so much passion on these issues, I have faith that during this Evidence Summit we can succeed in identifying actionable recommendations for vulnerable people on which food assistance can make a difference.”

WELCOME DAY 2

“I did grow up in Ethiopia during the Civil War in the 90’s, which led to one of the worst famines in world history, and having been immediately interested and involved in humanitarian work with OFDA and Save the Children, very early in my career, I have been able to see some of the evidence you all presented at play.”



Zema Semunegus

Office Director



Elizabeth Bontrager

Nutrition Team Lead (Acting)



WELCOME DAY 3

“I am grateful that shifting to a virtual summit has allowed for more active participation from those of you from outside D.C., especially our partners in the field.”

WELCOME DAY 4

“It is really important to recognize how far we have come. I hope over the course of today we get a chance to dig further into some of these remaining questions, but I also think more will be raised today.”



Mike Manske

Nutrition Advisor



PLENARIES

Plenary I: What Does New Science Tell Us about Food Assistance for Nutrition?

Plenary II: Continuum of Care, Wasting, and Avoiding the MAM/SAM Dichotomy

Plenary III: Implications of Treatment and Prevention of Malnutrition Strategies for Food Assistance Programming

Plenary IV: Adapting Programming and Protecting Logistics for Food Assistance during Pandemics and Other Crises

Plenary V: Food Assistance for Nutrition: What Do We Still Need to Know?

To Access Session Recordings, Click on Each Session Title Below

 #Evidence4Nutrition2



Patrick Webb
@DrPatrickWebb

...

Our science-to-programming 'evidence summit' on the Future of [#Food](#) [#Assistance](#) for [#Nutrition](#) kicks off. Tanya Khara shows how children with multiple nutrition deficits have high mortality risk. [#Evidence4Nutrition2](#) [@ENNonline](#) [@NutritionForDev](#) [@FoodAidQuality](#) [@TuftsNutrition](#)



Antonina Mutoro
@AntoninaNamaem1

...

"Food aid needs to be clean." Mark Manary. Ingredients in therapeutic foods for undernourished children should be carefully selected. Their benefits and risks should also be well understood. [#evidence4nutrition2](#) [#wasting](#) [#Malnutrition](#)



Dr. Justine Kavle @JKavle · Oct 8, 2020

...

[@FoodAidQuality](#) Summit: key intro takeaways: We need to have coverage data and consensus based on best available evidence. Advocating to policymakers needs these critical pieces:: Shawn Baker [@usaid](#) [@evidence4nutrition2](#)

Plenary I: What Does New Science Tell Us about Food Assistance for Nutrition?



This first plenary session opened the *Evidence Summit II* with a discussion that centered on novel scientific advances in our understanding of childhood malnutrition and considered evidence-based strategies for its treatment. Dr. Zulfiqar Bhutta moderated the session and opened by emphasizing that 144 million children are malnourished, 147 million are wasted, 114 million are stunted. Further, a staggering 2 billion people are food insecure, amplified by the crisis of nutrition during COVID-19.

Dr. Kay Dewey reviewed the biology of linear growth failure. She emphasized that linear growth is regulated at the ends of the long bones, where hormonal regulators and nutritional factors play key roles in the normal growth process, while inflammatory factors and disease inhibit linear growth. Dr. Dewey indicated that the stunting syndrome results from an intergenerational cycle, perpetuated by fetal growth restriction and short maternal stature. Dr. Dewey underscored the fact that nutritional interventions have been found to have relatively modest impacts on stunting, yet results are heterogeneous. The effect may be influenced by a child's potential to benefit (more likely when there is an existing nutritional deficit), versus his or her potential to respond (limited when there are other constraints on growth). As results of an IPD meta-analysis pointed to overall reductions in child mortality, stunting and wasting, as well as increases in cognitive developmental scores and micronutrient status, Dr. Dewey suggested that SQ-LNS should be considered, particularly alongside interventions that address factors related to the potential to respond, including control of maternal infection, prevention of fetal growth restriction, and care for women and children.

"Sometimes the children with the most potential to benefit may have the least potential to respond."

-Dr. Kay Dewey

Dr. Mark Manary discussed the implications of malnutrition on the child gut. Dr. Manary emphasized that the gut is one of the most intimate interfaces between the environment and the body, and contains 70 percent of the body's immune cells, as well as billions of beneficial and pathogenic bacteria. A healthy gut is characterized by a thick protective mucus layer, immunologically active cells and active transport mechanisms for nutrients. A malnourished gut, however, displays a compromised mucus layer, invasion of tissue by microbes, reduced cell adhesion and increased permeability. Environmental enteric dysfunction, therefore, is the result of malnutrition, and introduction of environmental pathogens, followed by inflammation of the gut. Dr. Manary indicated that amino acid absorption is depleted by EED, which results in diminished cellular growth and repair. He called for amino acids to be thought of as individual nutrients, and the scoring system for protein quality to be revisited, as not all protein is created equally nor is absorbed and metabolized the same way in all individuals. Dr. Manary discussed the results of his High-Pro MAM randomized controlled trial, where a protein-optimized (95 percent DIAAS score) oat RUTF offered no improvements in clinical outcomes, substantiating that the current protein scoring system might be reconsidered. Dr. Manary also discussed that the introduction of food stabilizers may cause further gut damage. He concluded by indicating that additional amino acids may be needed to account for decreased absorptive efficiency in the case of malnutrition and EED, as well as avoiding hydrogenated

oil and stabilizers in food aid products. A probiotic may be considered to promote healthy gut flora in malnourished children.

Dr. Masresha Tessema indicated that 5 million children suffer from stunting in Ethiopia. Dr. Tessema emphasized the important role of protein as a biological promoter of child growth and suggested that interventions that focus on protein have been found to be more effective at improving linear growth and weight gain in children, particularly in those over two years of age. Dr. Tessema also considered the role of zinc in the child growth and nutrition. He indicated that zinc deficiency impacts over 40 percent of children in LMIC's, particularly in Africa, where diets are largely cereal-based. The importance of zinc has been demonstrated in a number of review papers, where zinc has been found to positively influence linear growth and prevent morbidity and infection. Dr. Tessema concluded by suggesting that future food assistance interventions should focus on incorporation of protein and zinc into the diet.

Dr. Susan Roberts presented data on a novel nutritional supplement, named NEWSUP, that she and her research team have designed to support cognitive development in children living in LMIC's. Dr. Roberts discussed her conceptual model for optimizing brain health with supplementary foods and emphasized that supplements should include the full suite essential nutrients to support cognitive development. NEWSUP was formulated to include 100 percent of the USDA/USAID dietary/therapeutic guidelines in about 25 percent of calories to create a more concentrated formula which is not designed to be the full food source. Ingredients came from mostly food-based sources to increase polyphenols, such as cacao. Her team conducted a randomized-controlled trial that compared NEWSUP to a traditional control breakfast of rice and oil, with the supplement given 5 days per week for 6 months. They also tested NEWSUP alongside a conventional FBF (Supercereal Plus), yet the study was not powered to detect differences between NEWSUP and Supercereal Plus. The supplement was well accepted with over 80 percent consumption. They observed an increase in working memory among children under four years of age who consumed NEWSUP as compared to the traditional rice porridge control. They also observed large significant increases in cerebral blood flow, and a preferential accretion of lean muscle mass in children who consumed NEWSUP as compared to the control and the Supercereal Plus FBF group. She emphasized the need for replication studies and studies powered for comparison against traditional supplements, and the further testing for the full range of cognitive functions among children.

During the Q&A Discussion, Dr. Irwin Rosenberg asked the speakers to comment on what elements they believed were most important in nutrition assistance products for child development. Dr. Dewey and Dr. Roberts indicated that a full range of nutrients should be considered for optimal outcomes, and Dr. Manary emphasized milk as a key ingredient for development of the microbiome. Audience questions considered the effect of maternal depression on nutritional interventions, where Dr. Dewey emphasized the need for maternal mental health to be considered during interventions. A question was asked regarding the pigenetic impact of nutritional interventions, and Dr. Manary indicated that during the preconception period, nutrients in one carbon metabolism can have lasting epigenetic implications if they are missing. The session concluded with remarks from Dr. Bhutta, who indicated that with this multi-etiology syndrome, stunting, one solution may not fit all and there is a need for interventions specific to the context and food environment will be critical to moving forward.

Plenary II: Continuum of Care, Wasting, and Avoiding the MAM/SAM Dichotomy



Plenary II focused on the emerging evidence base for simplified/integrated approaches for the treatment of child wasting and how the SAM/MAM dichotomy may not be the most appropriate to best serve children and highlighted early detection, prevention modalities, efficient and effective treatment methods, scalability and adaptation of health systems to this emerging evidence. Erin Boyd, the moderator for this plenary, set the stage by providing current definitions of SAM and MAM criteria and introducing the present discussion around changing the CMAM approach to improve the quality and scale of interventions.

Jeanette Bailey opened the plenary with a discussion of the two-part USAID-funded Combined Protocol for Acute Malnutrition Study (ComPAS). ComPAS involved a secondary analysis of child growth data to propose an optimized dose of RUTF and an RCT to test this simplified protocol, assessing cost-effectiveness and noninferiority compared with standard treatment. She shared the results of the trial, which indicated comparable rates of recovery between the combined and standard protocols (76.3 percent vs. 73.5 percent), equal median weeks to recovery, and no evidence of difference in secondary outcomes such as deaths, defaulting, non-response, transfer to inpatient care, average weight gain and average MUAC gain, confirming noninferiority of the simplified protocol. Cost-effectiveness proved promising as well; the ComPAS protocol proved more cost-effective than the standard protocol, with even greater effects in contexts with more complicated RUTF distribution logistics. Ms. Bailey discussed directions for further research, including learning from the operationalization of these strategies outside of an RCT, and comparing results across contexts (i.e. in Africa vs. in Asia, in a food secure vs. insecure setting). She also highlighted the opportunity to integrate simplified approaches, such as family MUAC, and CHW community-based treatment of uncomplicated wasting.

“Family MUAC can support coverage not just through screening, but also through behavior change, structural strengthening in order to improve coverage, improving early referral, and reducing mortality, morbidity and cost.”

– Diane Moyer

Diane Moyer then provided an overview of the family MUAC approach for detecting malnutrition and presented an in-depth guide to implementation, including important considerations when designing programs. She discussed how use of family MUAC is boosting coverage and early detection of malnutrition by empowering women, promoting demand for nutrition treatment, supporting the community health system, and reducing child morbidity and mortality. Ms. Moyer reminded attendees that the approach is

not one-size-fits-all and must be adapted to the local context, including the choice entry points, training platforms, target populations, and program goals. She acknowledged several challenges to uptake of family MUAC and offered strategies and solutions to combat them. First, she said that health systems may lack a sense of ownership and commitment to the program, which she said could be mitigated by building upon and working within existing systems. She also acknowledged that adding family MUAC training to CHW’s already heavy workloads may be burdensome and create tension, so she encouraged implementers to work side-by-side with CHWs to ensure that family MUAC is complementing their work and not competing with it. Moyer concluded with an overview

of indicators that can be used to evaluate family MUAC programs, and a discussion of successful case studies in Niger and Burkina Faso.

Tanya Khara offered perspectives on wasting and risk drawn from the Wasting-Stunting (WaSt) Technical Interest Group (TIG) to optimize approaches to prevention and treatment around levels of risk. She discussed findings on the relationship between wasting and stunting using longitudinal data from Gambia, which demonstrated that periods of wasting led to children being three times more likely to be wasted within a period of three months and highlighted the importance of prevention, and effective early detection and treatment. Ms. Khara also noted that multiple anthropometric deficits (stunting, wasting, and underweight) put children at particularly high risk for mortality. She suggested that treatment should be optimized not by the SAM/MAM dichotomy, but determining intensity of treatment by mortality risk

Nicolas Joannic gave an overview of the status of malnutrition globally and discussed WFP's perspectives on wasting programs, which propose a paradigm shift away from treatments that demonstrate weak linkages between treatment and prevention. He acknowledged faults in the current system that limit its effectiveness, including bottlenecks that result in low coverage and high default rates, poor and ineffective continuum of treatment between severe and moderate forms of wasting, the designing of programs based on needs rather than demands, and a lack of synergy between prevention and treatment programs, and offered suggestions for a path forward. Mr. Joannic said that programs should focus on prevention first, addressing the underlying drivers and ensuring no one is left behind and emphasized the linkage between prevention and addressing the health and nutrition of girls, adolescent women, and pregnant and lactating women. He concluded with ways to improve programs on the ground such as colocation of treatment and prevention programs, leveraging different platforms as entry points for screening and early detection. He also outlined several considerations for the international nutrition community; namely, the need for new evidence that is tailored to specific populations, for new partnerships, and to embrace a digital revolution to improve the monitoring of programs.

Finally, Saul Guerrero concluded the panel presentations with UNICEF's vision for the prevention, detection and treatment of child wasting across contexts, which focuses on a universal systems-strengthening approach so that national systems are more accountable and better equipped. He outlined key priorities, including: 1) aligning national services so all vulnerable children receive all preventive services all the time; 2) improving early detection (especially through increased access to and use of MUAC); 3) making treatment more accessible and available through community health integration; 4) optimizing and simplifying treatment through updated global and national guidelines on child wasting; and 5) increasing the availability of RUTF by strengthening the supply chain and working with national governments.

The Q&A Discussion, which was led by Elizabeth Bontrager engaged panelists in a discussion of relevant questions from the audience. Mr. Guerrero addressed a concern that a narrow focus on RUTF dosing might neglect other aspects of care by reinforcing prevention and early detection as primary measures encouraged by the Global Action Plan on Child Wasting. Ms. Bailey and Ms. Khara previewed a current study testing the simplified protocol that adds low weight for age as an admission criterion, and the need to define the level of treatment needed by high risk children and evidence-based discharge criteria. Finally, Ms. Bontrager posed the question of how the research and action plans already in place can be brought together and how implementing partners can fill knowledge gaps from an operational perspective. Mr. Guerrero offered the idea that implementing partners may be able to contribute to country-level roadmaps of the gaps in knowledge, engage and identify priority questions for operational research on a global level, and address questions of optimizing financing and supply chain management of RUTF in real time.

Plenary III: Implications of Treatment and Prevention of Malnutrition Strategies for Food Assistance Programming



The third plenary, moderated by Dr. Suvi Kangas, brought together experts to discuss current food assistance for nutrition strategies for prevention and treatment of malnutrition that includes multisectoral programming strategies, maternal nutrition, and interconnections between wasting and stunting. The panelists emphasized throughout the session that there is a need for critical program and study designs to improve scaling and sustainability and stressed the importance of context and targeting at the different life stages.

Dr. Bernardette Cichon highlighted the Research Landscape Reviews conducted by No Wasted Lives Secretariat and CORTASAM. It reviewed ongoing and planned efforts for wasting treatment, emphasizing that cost-effectiveness can increase the number of children treated. She called attention to the fact that currently efforts are only reaching under a third of children who need treatment. Dr. Cichon went on to discuss the Review from early 2020 in more detail. The research areas consisted of approaches to treat wasting in the community, simplified/combined protocols, post treatment relapse, and alternative formulations. With a community focus, family MUAC was shown to improve early detection and treatment and is now widely used. Using Community Health Workers (CHW) is a newer approach that brings treatment closer to the communities and shows potential to increase coverage. She then discussed the strong evidence base on combined and simplified protocols allowing a continuum of treatment to address financial and operational challenges, along with the questions that still remain. Data on relapse is currently limited and variations exist in the definition of relapse, with considerable ongoing research being carried out. Finally, she explained the types of alternative formulations that exist, many of which aim to reduce milk and peanuts in order to improve cost-effectiveness. Significant research is ongoing to manage child wasting and she stressed that reaching more children requires continued evidence generation to improve effectiveness and scalability of programs.

Dr. Beatrice Rogers reviewed the results from two recent field studies conducted by FAQR: a Burkina Faso study focused on prevention with anthropometric outcomes and a Sierra Leone study focused on treatment with outcomes including recovery (by MUAC) and relapse. While carried out with differing designs and purposes, both studies served to compare four alternative foods with corn soy blend plus (CSB+ with oil) being the basis of comparison. She discussed the comprehensiveness of data sources that the studies used, including techniques such as multi-day in-home observations in order to go beyond self-reporting. Dr. Rogers explained that the Burkina Faso study found none of the foods to prevent linear growth faltering. The corn soy whey blend, the dairy containing alternative, unexpectedly performed worse than the others. Sierra Leone also found no significant difference in recovery rates among the four foods. However, the blended foods such as porridge found better sustained recovery than the RUSF as indicated by lower rates of relapse. She emphasized that higher weight gain in the early stages was predictive in recovery. Dr. Rogers described the ingredients approach used in assessing cost-effectiveness in these studies, examining

“As we recognize the importance of these other outcomes besides MUAC, we have to understand how best to measure those outcomes.”

- Dr. Beatrice Rogers

each element of program cost. Budgetarily, nothing was found to be more cost-effective than CSB+ with oil. She mentioned that the most important factor for prevention was that the consumption of food was observed. Dr. Rogers tied these studies to future implications for food assistance programming, with conclusions such as food choice being context-sensitive and the importance of consideration of relapse in cost-effectiveness analysis. Important questions remain such as what the determinants for decline in HAZ are and how supplementary foods are used within the household. She shared that outcomes beyond adequate MUAC, such as sustained recovery, cognitive function, body composition, inflammation, and immune function are important components of the cost of malnutrition and the benefit of treatment that need to be incorporated into effectiveness and cost-effectiveness analyses.

Dr. Parul Christian emphasized the need to target nutrition during pregnancy and lactation since various maternal nutritional factors, such as low pregnancy weight gain and micronutrient deficiencies, are causally linked to poor birth outcomes. Her review of the global burden of low birth weight touched on the lack of progress made in this field, the high burden in South Asia, and the low quality of data. With the target of a reduction of 30 percent by 2025, she reviewed the risks of low birth weight which include immediate morbidity and mortality along with poor postnatal growth. Dr. Christian focused on potential nutrition-based solutions, reviewing recent studies and highlighting the high prevalence of stunting that exists by age 6 months. Dr. Christian focused on fortification and the need for specified products for pregnant and lactating women in order to receive balanced energy protein (BEP) supplementation. She reviewed ready-to-use foods for pregnant women currently being tested for efficacy and programmatic use that will help to inform future policy for maternal undernutrition and generate evidence for targeting, which may be an effective, low cost and safe strategy.

Eric Anderson spoke about the efforts of USAID's multi-sectoral nutrition strategy on prevention and treatment of malnutrition and highlighted the successes and challenges of these efforts in emergency and development settings. He explained how the strategy aimed to channel voices of civil society organizations and focused on several high impact actions including CMAM improvement, support for maternal nutrition, and scaling up nutrition assessments, counseling, and support. CMAM is aimed to be improved in both emergency and non-emergency settings, with context of non-emergency settings leading to increased difficulties in treatment. He discussed how improved screening and early detection lead to more children being admitted for SAM treatment, regardless of if an emergency was present. Mr. Anderson reviewed successes we have seen, such as the decreased mortality rates in Turkana and the ability to sustain mortality rates in the year of a drought. He reviewed a phased approach that began in 2019, the RFA aiming to fill evidence gaps and use this evidence to implement the findings. USAID is guided by a multisectoral strategy and the framework results can be seen in Kenya. Increased accessibility to wasting services, increased capacity, increased multi-sectoral programming, and increased global nutrition leadership all combine to achieve the strategy.

The Q&A Discussion for this plenary was led by Dr. Kिर्रily de Polnay. Panelists touched on various topics including efforts to incorporate the mother-child pair into USAID's multi-sectoral nutrition programming activities; ways to improve maternal nutrition particularly during the lactation period, which has higher nutritional requirements than pregnancy; use of SBCC to encourage feeding during illness and consequently, reduce wasting; impact of food aid products on taste preferences of young children; and considerations of involving agriculture to complement nutrition programs and ensure sustainability. There is a need to address treatment gaps, prioritizing quality of treatment to improve effectiveness, the importance of the intersect of social change and diet change, prevention as a preferred method of treatment, and the delicate yet important role that private sector partnerships have. Dr. Polnay concluded by reemphasizing the high number of children stunted at birth and the support that evidence provides for the mother-child approach.

Plenary IV: Adapting Programming and Protecting Logistics for Food Assistance during Pandemics and Other Crises



This plenary opened by Shane Prigge, the moderator, introducing the theme of challenges related to disruptions in the supply chain for food aid products faced during previous pandemics and other disease outbreaks, and how these lessons learned can be applied to the COVID-19 crisis.

Dr. Heather Stobaugh presented on innovations and COVID-19 adaptations in the management of child wasting while reducing the risk of COVID-19 transmission, including family MUAC, simplified admission criteria, simplified dosage, reduced follow-up visits, and treatment by CHWs. ACF and its partners have been systematically documenting, synthesizing, and sharing these and other adaptations through the use of a surveys, interviews with program implementers, and planned secondary data analysis. Preliminary findings have been shared in real time, particularly on The State of Acute Malnutrition website, including a significant decrease in CMAM admissions, input related to the acceptability to and impacts of adaptations on caregivers and program implementers, and continuing challenges related to detecting and treating wasted children in the context of COVID-19.

Dr. Saskia de Pee presented on WFP's efforts to meet the increased need for food and nutrition assistance for the most nutritionally vulnerable during the COVID-19 pandemic. Some of the breakdowns in access across the food system that WFP has been working to combat including economic and supply chain issues, such as limited financial resources, reduced production capacity, and transportation disruptions. WFP's efforts to ensure that enough of the right food is available at the right place have centered around securing adequate supplies from a variety of new and existing suppliers at the global, regional, and local level, as well as pre-positioning stock and redistributing some supplies based on shifting needs. WFP has also been prioritizing the distribution of limited SNF supplies based on need, substituting alternative products when appropriate, considering the use of cash and vouchers, and continuing to monitor the situation and adjust responses accordingly. WFP has also been innovating to source commodities locally and develop new products.

Mr. Greg Olson presented on how USAID's previous experience informs operations during pandemics. He started with an overview of how the food assistance supply chain differs from that for other goods due to the often challenging conditions on the ground in destinations due to conflict, natural disasters, and limited infrastructure. These very challenges that USAID must overcome in the course of daily operations has prepared it for responding to the COVID-19 pandemic and other crises by maintaining flexibility and working closely with partners. Key elements include: advanced planning before an incident occurs, including potential demand or supply disruptions, continuing to adjust those plans based on new information, keeping stakeholders informed, keeping in mind the challenges that suppliers are facing, and not relying on any particular product or supplier; and managing risks to maintain logistics resiliency, anticipating chokepoints/bottlenecks, and shortening the chain by pre-positioning goods closer to where they will be used.

"[USAID's] normal work has prepared us for some of the logistical fallout from the pandemic that is going to include things like delays in procuring foods, delays in producing foods, unexpected transit halts, delivery delays, shortages of manpower."

– Greg Olson

Mr. Mamadou Diallo presented on lessons learned on the impact of supply chain disruptions on UNICEF programming during previous pandemics and disease outbreaks. UNICEF has applied lessons learned from the Ebola crisis in Sierra Leone to the COVID-19 response, including helping partner countries develop preparedness plans, stockpiling essential health supplies and developing a list of essential supplies needed in an emergency for in-country partners, and preparing guidance for responding to infectious disease outbreaks. The demand for nutrition commodities has increased since the COVID-19 pandemic began and UNICEF has responded by increasing procurement and distribution, prepositioning and tracking supplies, supporting government partners, working with program partners to plan ahead based on forecasts of additional needs while taking into consideration existing storage capacities, and continuing to conduct end user monitoring activities.

Dr. Jarrod Goentzel presented on food supply chain resilience during the COVID-19 pandemic. The MIT Humanitarian Supply Chain Lab worked on two projects related to food supply chains in the context of COVID-19 in 2020. The first was a rapid agricultural market assessment in Uganda using a [system map](#) to help consolidate and organize information and to track changes in conditions on the ground in a way that helps partners visualize the entire system and how each part interacts with the others, anticipate additional changes, and understand information gaps. The second was a partnership with the U.S. Federal Emergency Management Agency (FEMA) to review the supply chain resilience of the private sector in order to better understand where gaps exist and how FEMA can help to fill them without creating redundancies, including determinations of essential businesses and the resulting impacts on the supply chain.

Dr. Patrick Webb led a Q&A discussion with panelists based on questions submitted by attendees, including: 1) adaptations specifically related to COVID-19 such as reducing the number of follow-up visits, considering the global scale of the pandemic, and protecting the health and safety of those producing and delivering the foods; 2) adapting supply chains to respond to the pandemic while maintaining relevant standards, which can be difficult to do in the short term without adequate planning and risk assessment; 3) maintaining the continuity of essential services by gathering information from the country level and then disseminating it globally; 4) reliability of cross-border data, which can be difficult to obtain but requires discussions with those on the ground to better understand conditions; 5) disseminating granular data back down to the regional and local level after gathering and synthesizing it; and 6) responding to decreasing admissions to CMAM programs by ensuring that program implementers and CHWs have sufficient PPE, implementing family MUAC, and trying to correct misinformation.

Plenary V: Food Assistance for Nutrition: What Do We Still Need to Know?



The final plenary, moderated by Elizabeth Brown, focused on the question, ‘what do we still need to know?’ Steve Vosti began this session by describing the overall themes and proposed questions of ‘how do we go about discovering what we need to know’ and ‘how do we put that into practice?’

Shawn Baker started by reviewing key findings from recent years related to excess mortality from undernutrition. He explained fetal growth restrictions within the first month, undernutrition damage in utero, and the long-time burden of suboptimal breastfeeding. Mr. Baker continued his presentation with the evidence gaps for scale, and organized into the 6 C’s: concentration, capacities, costs, coverage, commitment, and consensus. Concentration details the need to identify areas for the greatest potential impacts to be combined with the readiness to deliver. Capacities including the human resource, the institutional, the production, and the distribution capacities should be better planned out in order to achieve scale. When it comes to cost, there is a risk of focusing too much on the overall cost of products, but a better understanding of the totality of programmatic costs can show which cost factors can be reduced and which costs are most essential. Next, he explained that there is not an understanding of the levels of coverage and compliance that are required to achieve the desired outcomes in program design, monitoring, and assessment. While there will always be some role for impact evaluations in some settings, we need to shift to be able to articulate the levels of coverage and compliance required to project probable impact. Commitment explains that there is no path to scale without political will and there is still a reliance on covering product and implementation costs from external resources. Finally, consensus details that there are divergent points of view in the evidence-generation process, and we need to preserve this robust, evidence-based debate as well as form a consensus based on the best available evidence at the time.

Danielle Mutone-Smith began her presentation by discussing policy focusing on the Food for Peace Act and the Farm Bill. She expresses with the next round of Farm Bill reauthorization and Global Food Security Act that evidence should be followed to determine if policy and legislative constraints are causing gaps within programming. Development and emergency programs are often in the same countries but are not often working in coordinated ways resulting in a divide driven by policies and mandates rather than what’s best for beneficiaries. She explained that internal policy reviews to

“As we look to the next round of Farm Bill reauthorization and Global Food Security Act, we should be asking ourselves again is the evidence pointing to a need that we aren’t able to cover yet in programming because of policy and legislative constraints.”

-Danielle Mutone-Smith

foster these connections and identify where we can bridge divides are also important. Ms. Mutone-Smith discussed the USAID’s three ‘R’ family that includes relief, resilience, and recovery. BHA is now side by side with the Bureau of Resilience and Food Security in this structure and aligned with the Bureau for Global Health. Coordinating in the nutrition leadership council, these departments have better aligned policies, priorities, and programs where we can plan to achieve better outcomes together. Ms. Mutone-Smith recommended multi-year emergency funding, which will require a shift in the policies of many donors.

Allison Oman started her presentation by reviewing gaps in evidence from a World Food Programme perspective and the ways we can move forward. She listed four areas of evidence gaps, the first being addressing all forms of malnutrition and understanding cost-effective interventions for stunting and wasting concurrently. The second gap included the burden of malnutrition, focusing on integrated nutrition interventions and over-nutrition programs and leaving no group behind, specifically school-aged children and adolescents. There are several approaches to addressing this gap, which include effective platforms in reaching these individuals, optimization of adolescent's diets, and use of fortification to improve nutrition in girls and women of reproductive age. She went on to discuss the importance of understanding maternal nutrition in order to address malnutrition early. She further discussed special populations, such as elders frequently left out of interventions and the potential for adaptable packages by context. Ms. Oman continued to the third area of gaps in evidence, thinking beyond food supply and its importance to build on the local food environment to ensure the programs can be sustained within them. We must empower individuals and communities to understand the barriers that exist after treatment and learn more about who influences these decisions. Finally, Ms. Oman highlighted digitalized nutrition, which is the final evidence gap and the need for more evidence on the digital potential for improving efficiency and cost-effectiveness along with support for existing nutrition services in outbreak contexts.

Dr. Steve Collins opened his presentation by looking at the rhetoric and how we all understand the urgency, especially now that Covid-19 will increase the rates of wasting. He continued with displaying results of medicalized supply-driven approach coverage. Dr. Collins then goes on to explain that cost is a major barrier and RUTF is about 50 percent of the total costs with a single main supplier. He compared these results with Global Alliance for Vaccines and Immunisation (GAVI) and Pentavalent Vaccines that have increased coverage in a highly competitive market with the cost dropping over the past 10 years. Comparing these results shows that we must look outside the current sector and learn how to stop repeating actions and expecting different results. Dr. Collins continued by providing barriers to both recovery rates and ingredient costs of amino acid enriched SMS-RUTF. Dr. Collins then discussed the barriers surrounding the treatment of body iron stores and anemia using the amino acid enriched SMS-RUTF. He concluded that there is a major barrier in the use of evidence, and it is causing the evidence to not turn into practice. Dr. Collins suggested that a broader range of informed experts should convene to balance the conflicts of interest as well as encourage the engagement of the private sector and come to the realization that the nutrition community cannot address this problem alone.

Steve Vosti started the Q&A Discussion session by addressing a question to each speaker targeted towards expanding on the gaps and barriers that each had suggested during their presentation. Mr. Baker explained that the goal is to end malnutrition everywhere and that there is a need to prioritize the decrease in death, prevention of disabilities, improvement of cognition and physical growth. Ms. Mutone-Smith elaborated that building better strategic bridges in countries to navigate potential conflicts can be difficult, including differences in authorities, funding, and program cycle length. Ms. Oman reflected on SBCC strategies stating that the cost of not doing it outweighs the cost of an extensive SBCC program. When it comes to digitization, these innovations can reduce the workload on CHW, provide health information in front of the health practitioner, enhance access and follow-up, and provide real-time data about product stock counts. Dr. Collins suggested engaging the large capabilities of the private sector suppliers using local manufacturers, and ingredients for a variety of products through a variety of channels, leading to a reduction of the dependence on insecure donor funding.

PANELS

Panel 1: Intakes of Micronutrients and Animal Source Foods for Nutrition Outcomes

Panel 2: Packaging of Food Assistance Products: Challenges and Outlook

Panel 3: Alternative Formulations for Food Assistance for Nutrition Products

Panel 4: Food Safety and Naturally Occurring Contaminants in Food Assistance Products

Panel 5: Food Assistance Supply Chains and Traceability

Panel 6: Non-Food Interventions and their Impact on Nutrition Outcomes

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 #Evidence4Nutrition2



Pinar Keskinocak, Ph.D. @PKeskinocak · Oct 7, 2020

Excellent presentation by Greg Olson at the Future of Food Assistance for Nutrition Summit: transparency + tracability --> visibility and accountability in supply chains.

evidencesummit2.wordpress.com

[@FoodAidQuality](#) [@USAID](#) [#SupplyChain](#) [#foodsafety](#) [#foodsecurity](#)



Dr. Purnima Menon @PMenonIFPRI · Oct 6, 2020

We typically think about food assistance as dry, cereal-based foods but the evidence on animal-source foods is compelling. Join us to learn more today at The Future of Food Assistance for Nutrition: Evidence Summit II

[@FoodAidQuality](#) [@TuftsNutrition](#)



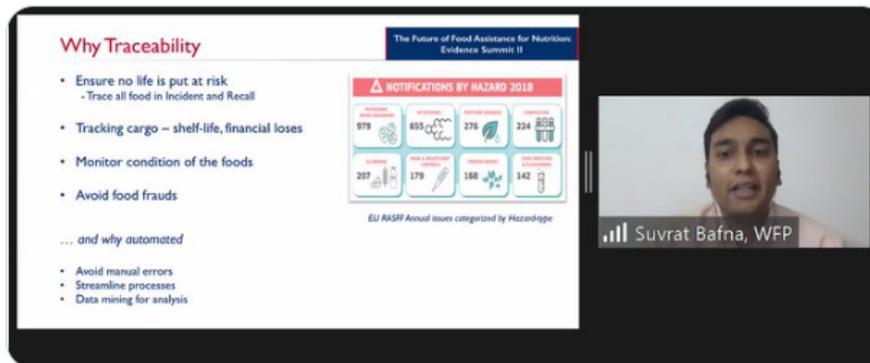
Pinar Keskinocak, Ph.D. @PKeskinocak · Oct 7, 2020

Suvrat Bafna highlights the importance of [#traceability](#) to ensure food safety, to reduce losses, etc. and the challenges in supplier technology investment and adoption.

The Future of Food Assistance for Nutrition: Evidence Summit II

evidencesummit2.wordpress.com

[@FoodAidQuality](#) [@WFP](#)



Why Traceability

- Ensure no life is put at risk
 - Trace all food in Incident and Recall
- Tracking cargo – shelf-life, financial losses
- Monitor condition of the foods
- Avoid food frauds

... and why automated

- Avoid manual errors
- Streamline processes
- Data mining for analysis

NOTIFICATIONS BY HAZARD 2018

HAZARD TYPE	NOTIFICATIONS
CONTAMINATION	979
ADULTERATION	855
ALLERGENS	276
RESIDUES	224
GENOTOXIC	207
PHYSICAL	179
TOXIC	168
OTHER	142

EU RASFF Annual issues categorized by Hazard type

Suvrat Bafna, WFP

Panel I: Intakes of Micronutrients and Animal Source Foods for Nutrition Outcomes



This session explored the current evidence supporting intakes of micronutrients and animal source foods in the realm of food assistance for nutrition while considering quality, safety, and efficacy. Dr. Purnima Menon opened up the session as the moderator, posing questions of how can this community work towards meeting the key nutrients needs of vulnerable populations, including women of reproductive age and children, in developing countries and where can these fortified foods or supplemental products fit in large scale public programs around the world.

Dr. Lindsay H. Allen signaled to the importance of pregnant and lactating women (PLW) nutritional needs and highlighted how future research endeavors, interventions, and randomized control trials, must do a greater job at targeting this vulnerable population. As Dr. Allen noted, the micronutrient requirements of lactating women are 50-90 percent higher for vitamins A, C, B6, zinc and iodine; and 20-50 percent for other vitamins and selenium. Although more research is needed on the associations between maternal diet quality and changes, and the concentrations of nutrients during stages of lactation, it is known that maternal diet and nutritional status greatly affect breast milk concentrations and deficiencies can result in poor infant status, gaps in complementary feeding, and increased risk of deficiency in future pregnancies. Dr. Allen provided solutions such as animal source foods, the most concentrated source of micronutrients besides supplements, in addition to LNS supplements both of which have shown to increase maternal status of multiple micronutrients. Barriers that still remain include the timing and dosage of LNS supplementation for lactating women, poor predictability of supplementation impact on undernourished mothers, and the need for greater evaluation of fortification vehicles and their optimum levels of micronutrients to restore milk and maternal status.

“It is very important to give iodized salt to lactating women to ensure their milk is adequate in iodine, one of the most profoundly affected micronutrients in milk because infants consume such small amount of iodized salt”

-Dr. Lindsay Allen

Dr. Christine Stewart further complemented the importance of animal source foods targeting children due to their greater requirement for micronutrients relative to their total calorie requirements. The nutrient density and bioavailability from animal source foods provide a valuable option although the cost barrier continues to be strong. Dr. Stewart presented that results from a study in Ecuador of 1 egg/day for 6 months given to children 6-9 months of age, which yielded statistically significant effects on child length and a large reduction of stunting, were not replicated in their Malawi studies of similar design, concluding that variation in effects on child growth are most likely due to discrepancy in baseline conditions and prevalence, and diversity of impact pathways. Dr. Stewart emphasized the need for greater investment and research in dietary modeling studies to identify which types of animal source foods may offer the greatest benefit in specific population groups, understanding protein and amino acid requirements in children with repeated infections and chronic inflammation, efforts of future RCTs to be cross comparable, and more research into outcome identifiers beyond growth such as anemia prevalence and cognitive benefits. It is also important to quantify the health benefits of milk and eggs on improving child undernutrition relative to other alternatives in future work.

Dr. Omar Dary presented on the principles of food assistance and humanitarian aid and how food fortification can complement the diet of developing countries. Dr. Dary categorized two types of programs, permanent programs and humanitarian food assistance, and compared two delivery vehicles, fortified foods and micronutrient supplements, in both contexts. In the permanent program context, the cost of fortification is much less than of supplements and has the potential to provide higher coverage with greater national sustainability, although the micronutrient supply sufficiency is sacrificed. In the humanitarian food assistance context, costs, coverage, sustainability, and micronutrient supply are analogous. Dr. Dary concluded that the selection of delivery vehicle will be most dependent on adherence to the program and he emphasized the importance of only using one or the other. The necessary difference in product formulations between permanent program and food assistance contexts as the nature and purposes of the two contexts are distinct. Additionally, Dr. Dary stressed that the measure of intake is an important factor in designing a fortification intervention; EAR v. RNI/RDA v. UL, because it may be that fortification leads some individuals to cross the UL towards toxicity.

Dr. Juan Andrade presented on the unique concept of novel-protein based delivery vehicles to bring nutrients into different kinds of food products, stating that the application of nanotechnology to commonly available and accessible protein materials from animal and plant sources is an underutilized strategy to bring nutrition to populations. Dr. Andrade spoke on his work with amyloid fibrils and nanoemulsions and their impact on iron and vitamin D deficiencies, both commonly targeted by fortification methods. Results showed that soy and whey protein-based amyloid fibrils provided greater functionality for iron, improving reduction and dialyzability, increasing its absorption as well as that soy, pea, and whey protein-based nanoemulsions with added vitamin D in oil yielded complete recovery from vitamin D deficiency compared to microparticle treatment over a weeks' time. Dr. Andrade called upon food scientists, nutritionists, and engineers to support these stealth, next generation nutrient nano-formulations and strategies for nutrients that are hard to work with or have limited delivery in wholesome diets, as they have the capability to promote enhanced bioavailability, cost-effectiveness, stability of nutrients, controlled release, scalability, and improved sensory properties for consumers.

Mr. Penjani Mkambula began by acknowledging that food fortification is a public health intervention primarily driven by private sector, but success is dependent on an interplay of various partners for legislature, funding, technical assistance, and more. Integrating fortified foods into food assistance programs requires these players to understand the context in which a number of food fortification programs, primarily in LMIC, operate and the challenges that they face. Mr. Mkambula highlighted the three leveled quality and compliance framework for fortification programs and policies, developed by WHO, to assist country governments developing and maintaining food fortification programs, although a good framework does not necessarily equal to good results. Several constraints to this were highlighted including the burden of resources; lack of attention to under-fortification; lack of uniformity across the interpretation of compliance; and lack of integration of parallel monitoring for food fortification and food safety. Mr. Mkambula closed with recommendations for practical use which included focusing on the process rather than the product, which will save cost and likely yield the right outcome if performed optimally; perform qualitative analysis of food fortification programs often with periodic quantitative sampling as validation; digitization of monitoring procedures; and implement incentives for countries to fortify with penalties for poor compliance.

Dr. Nina Schlossman led the Q&A Discussion section with a riveting question targeted at all panelists, what is the most promising, practical opportunity from a research, practice, or private sector perspective for policymakers to help move the nutrition needle in the next generation of food assistance? Dr. Allen, once again, implored for attention to be paid to lactating women. Dr. Stewart claimed focus needs to be on short- and long-term goals to ensure healthy and affordable diets to everybody. Dr. Dary, Dr. Andrade, and Mr. Mkambula all declared the quality of diet and quality of food fortification is of utmost importance to complement the diet.

Panel 2: Packaging of Food Assistance Products: Challenges and Outlook



Ms. Carole Manceau, a co-moderator of this panel, provided a WFP perspective on food assistance packaging issues, including an overview of continuing efforts to extend the shelf life of high energy biscuits to 18 months by testing the improved sealing capacity of aluminum-based material and a three-layer metalized laminate; the transition of SuperCereal to smaller 1.5-3 kg metallized sachets like those already used for SuperCereal Plus to improve shelf life, traceability, and convenience to recipients, as well as to prevent food fraud; repackaging lipid-based nutrients from a weekly ration provided in one 325 gram pot to seven 50 gram sachets, which has not only reduced the amount of packaging required and food losses, but also provided other benefits, including easing consumptions, minimizing the risk of intra-household sharing, and reducing the risk of contamination; and ongoing challenges related to vegetable oil packaged in metal cans, which are not resilient or convenient for dispensing.

Dr. Rufino Perez, the other co-moderator, then provided a USAID/USG perspective on the importance of developing specialized packaging for specialized foods as part of the goal of ensuring evidence-based food and nutrition delivery across vulnerable groups with unique needs. USAID has traditionally worked with suppliers to develop packaging solutions but has increasingly been

“The bottom line is...we could have the best food with the best ingredients and the best nutrition profile, but if the packaging is not the right one, it will hamper our ability to deliver the right food to the right people at the right time.”

-Dr. Rufino Perez

consulting a wider array of stakeholders to identify packaging challenges throughout the supply chain, particularly during the last mile. They then develop comprehensive assessment methods for the available packaging technologies, including performance, functionality, and cost-effectiveness, and, finally, test the prototype packaging options. He offered the challenges and potential solutions related to vegetable oil packaging as an example, including a bulk oil packaging trial.

Ms. Rachel Goldstein provided an overview of MARS global packaging sustainability efforts, including the challenges related to managing plastic packaging waste. MARS has been working to remove unnecessary packaging, redesign existing packaging, and invest in recycling systems with a goal of making all packaging reusable, recyclable, or compostable, plus reducing virgin plastic use. Flexible plastics are recycled far less (or not at all) than rigid plastics, especially in developing markets. Three strategies to transform the global plastic packaging market advocated by MARS and the Ellen MacArthur Foundation include: recycling (50 percent), including efforts such as Plastic Bank that provide credits or money for recycling plastic goods, converting plastics to other plastic goods, including plastic bricks, or even into fuel; reuse/refill (20 percent), including bulk dispensing into refillable, rigid plastic containers to eliminate the need for single-use sachets and other containers; and redesign (30 percent), which involves replacing plastic with other materials, such as replacing plastic rings on soda cans with paper or even redesigned, interlocking cans that do not require additional material to connect them, keeping in mind the tradeoffs involved and suitability of these changes.

Dr. Rafael Auras highlighted the importance of taking a multi-disciplinary approach to extending the shelf life of a product, including considerations of the environmental footprint of the food we eat,

the food we waste, and the packaging materials for those foods. Packaging is often developed as an afterthought but should be considered throughout the development process in order to best tailor the packaging to the properties of the product to improve the shelf life, including collecting data, conducting accelerated shelf-life studies, and using predictive modeling. The right packaging system must take into consideration the properties of the packaging materials that serve as a barrier between the product and the environment, as well as the properties of the food product itself, including the chemical makeup of the ingredients. The right formulation can protect the food by reducing oxidation in products like vegetable oil and can help to contribute to the goal of developing a fully bio-based, compostable package with a high oxygen and water barrier to protect both the environment and the food product.

Dr. Greg Rulifson described the joint initiative for sustainable humanitarian packaging waste management. Several priorities were identified during a scoping study conducted as part of this initiative, including 1) enhancing humanitarian coordination, 2) engaging the private sector in policy and standard setting, 3) conducting detailed assessments and case studies at both the individual commodity and organizational level, 4) production, procurement, distribution, and usage, 5) end of life management, including local recycling facilities and a solar-powered mobile recycle unit developed in coordination with the MIT Lincoln Laboratory, and 6) developing a solid waste management planning framework, including an packaging impact evaluation tool to be used by partners. Implementation is expected to take place in 2021 and 2022.

Mr. Michael Brady described the ways that ProAmpac, one of the nation's largest packaging manufacturers, has been collaborating with USAID to improve food aid packaging by developing a better understanding of the journey that food aid products make through the supply chain and the challenges faced in making it to the last mile. Some of the company's objectives to improve the 25 kg hybrid bags used to USAID to distribute cornmeal and corn-soy blend plus have been to 1) reduce the breakage of bags to minimize product loss by adding laminated layers and a sealant; 2) eliminate pest infestation by adding micro-perforations to certain layers of the bags to allow for venting and by eliminating gusset folds; 3) maintain use of millers' existing filling equipment through extensive testing with each miller; and 4) consider a reduction in the bag size to 12.5 kg to better serve recipient needs.

Ms. Jennifer Esterle led the subsequent Q&A Discussion with panelists with a discussion of the challenges related to implementing new packaging solutions offered by the private sector, which Ms. Manceau agreed could be difficult due to the limited availability of solutions in some locations and Dr. Perez explained required engagement with stakeholders across the humanitarian supply chain to overcome. Attendee questions centered around: 1) the functionality of packaging, including parameters used to assess shelf life, to which Dr. Perez responded by emphasizing the importance of maintaining the nutrition profile and quality of the product throughout the shelf life, which USAID assesses through accelerated shelf-life studies that mimic the conditions throughout the supply chain and then field assessments of packaging performance; 2) whether the antioxidants from packaging are considered an additive, to which Dr. Auras explained that antioxidants released into the product must be declared based on local regulations at their destination; 3) issues with printing lot codes on hybrid bags, which Mr. Brady explained has not been a problem for any of the millers with which ProAmpac partners, and Dr. Perez described as a concern since labeling can fade throughout the supply chain and for which USAID has identified reverse printing embedded into the packaging as a potential solution; 4) research on vacuum packaging, which Dr. Perez explained has resulted in new challenges related to caking and compacting of products; and 5) reusable packaging, to which Ms. Manceau responded that some WFP packaging is already reused, including woven bags, plastic jerrycans, and metal cans, and Ms. Goldstein highlighted that reuse is often driven by need rather than by design within the household.

Panel 3: Alternative Formulations for Food Assistance for Nutrition Products



The third panel session, moderated by Dr. André Briend, began the session with a brief introduction to the concept of alternative ready-to-use therapeutic foods (RUTF), which was introduced at a 2003 expert meeting. The idea was to replace milk, the most expensive ingredient, to create a less expensive product. He introduced our panel of experts to discuss the current evidence.

“In order to increase access to treatment, we need to do two things: reduce the price of the current product and introduce some alternative recipes that help with availability and acceptability.”

- Allison Daniel

Allison Daniel discussed a WHO-commissioned systematic review that she and colleagues conducted which focused on RUTF with less than 50 percent of protein coming from milk for children with uncomplicated SAM. Her team considered outcomes related to the efficacy, effectiveness, and safety of alternative RUTF. They also considered the relationship between protein quality and weight gain,

given the RUTF various formulations. 8 articles published across 6 different studies were included in the review. Random-effects meta-analysis indicated that standard RUTF performs slightly better than lower-milk RUTF formulations with regard to weight gain, recovery, non-response rate, and weight for age z-score. There were no differences in mortality, default rates, weight for height z scores or high for age z scores. Ms. Daniel indicated that the included studies included short follow-up periods of about 10-12 weeks, and future studies should consider a longer follow-up duration.

Alison Fleet described UNICEF’s strategic goals for RUTF procurement and considered how alternative recipes are defined and categorized. Ms. Fleet discussed that a new RUTF is defined by UNICEF as any new addition of an ingredient that comprises over 10 percent of the formulation, and the new ingredient is likely to change the organoleptic properties of the RUTF. New RUTF formulations are categorized as renovation (50 percent milk protein, but peanuts are substituted for another grain or legume), innovation (milk protein is exchanged for another protein source), and novel (no milk protein, added amino acids and/or micronutrients). The first two categories meet the joint requirements of RUTF, while the third does not. UNICEF released an ingredient tender from suppliers of alternative RUTF in 2019. They received 35 different formulations. In 2020 they released another tender to suppliers, and chose to focus on two key ingredients, chickpea and soya, due to their abundance in recipes and wide availability. These alternative formulations were offered at a lower price than the traditional formulation, driving UNICEF’s WAP down to \$40.10, equating a 4-5 percent price reduction. Quality evaluation and acceptability trials still need to be conducted, and upon positive results, the formulas will be included in UNICEF’s catalogue.

Dr. Mark Manary discussed a novel formulation of RUTF that included oat. Dr. Manary indicated that this formula represents a 15 percent cost savings as compared to the traditional RUTF and includes milk and higher omega 3 fatty acids. In a triple-blind randomized control trial in Sierra Leone, a higher rate of recovery was observed among children given oat RUTF for the treatment of SAM. Dr. Manary explained that these results may be due in part to the fact that hydrogenated oil, which is used as a stabilizer in traditional RUTF, is not present in this oat RUTF formulation. Food stabilizers have been found to damage the gut in animal studies. Dr. Manary suggested that future studies that explore gut permeability and the microbiome, introduce oat RUTF outside the context of Africa and well as studies of long-term stability are being planned.

Dr. Paluku Bahwere discussed the latest formulation from Valid Nutrition that has been investigated: a soy maize sorghum (SMS) RUTF, which is free of milk and is protein-optimized with crystalline amino acids. During effectiveness testing for the SMS RUTF, it was found that recovery rate among children aged 6-59 months with SAM is comparable to that of standard RUTF. The SMS RUTF was also observed to have a greater effect on hemoglobin levels and anemia status among children 6-24 months who were anemic prior to treatment, as compared to the traditional RUTF. Weight gain velocity and length of stay in treatment slightly favored the traditional RUTF.

Dr. Saskia de Pee discussed food supplements for pregnant and lactating women (PLW) in the context of malnutrition, as well as development and testing of new supplements for this population by WFP. Dr. de Pee shared that, typically, PLW in food insecure areas are supported with Super cereal Plus. However, since Super cereal is often prepared as a family meal, PLW may not be consuming the full dose. Thus, a number of ready-to-consume foods for PLW has been under product development in Burkina Faso and Nepal, supported by the Bill and Melinda Gates Foundation. Novel supplements include pastes, bars, drinks, and even a savory lentil-based pillow snack, enjoyed among Nepalese women. Future work includes product testing in other contexts, determination of ration size to provide the current specification at 350 kcal per day for PLW, as well as monitoring of supplement home use.

Dr. Briend closed the session with remarks that emphasized that alternative RUTF offers only marginal cost savings, as indicated by Alison Fleet's presentation. Dr. Briend discussed possibility of nutritionally optimizing the current formula to reduce the dose given to address cost-savings. Odile Caron led the Q&A Discussion, which considered questions of oat RUTF acceptability and cost, addressed by Dr. Manary, UNICEF's plan for renovation product inclusion in their catalog, as well as cost, addressed by Alison Fleet. Other questions addressed increasing iron content in standard RUTF, and replacement for emulsifiers in RUTF.

Panel 4: Food Safety and Naturally Occurring Contaminants in Food Assistance Products



This session, moderated by Donna Burke-Fonda, brought together a dynamic panels of speakers presenting on food safety concerns related to naturally occurring contaminants that can be introduced into food and products during the raw materials, manufacturing, and supply chains stages, and will highlighted the importance of evolving safety measures.

Dr. Rufino Perez began this panel with a comprehensive review on the biological and physiological mechanisms and implications of naturally occurring food toxins in food and feed as well as strategies of assessing these contaminants and associated risks. Citing statements from organizations such as WHO and FDA, Dr. Perez highlighted the uniformity across evidence acknowledging the presence of natural toxins along the supply chain and the concern to control at low levels as eradication would be unachievable. Some concern surrounds the regulatory limits of these organizations as they are based on different evidence, therefore translating into some problems country to country depending on which framework is adopted. Dr. Perez emphasized that these discussions surrounding concerns of mycotoxins are not indicating a current crisis, rather gathering evidence to prevent and avoid any unnecessary alarm around commodities. in order to protect the very central goal of nutrition delivery and human health.

Dr. Vittorio Fattori shared the perspective of FAO Food Safety Programme which, in collaboration with other partners, aims to protect public health, contribute to food security and support economic development. Changes within the intricate components of the complex food system all can impact food safety, including growing population, climate change, new packaging materials and regulations, globalization, urbanization and linkage to disease, circular economy and more, all of which we must be prepared to adapt and respond to. Dr. Fattori highlighted key attributes of FAO's long standing work and recent efforts in food safety including the Codex Alimentarius Commission with WHO, which specifically houses the benchmark standards under the WTO/SPS Agreement, used as a point of reference if there is a trade dispute between countries. The scientific basis of the Codex standard development is offered by joint programs between FAO and other organizations covering food additives and contaminants, pesticide residues, and microbiological issues, culminating to construct the international setting of risk assessment, management, and communications. Dr. Fattori spoke to future perspectives such as trace contaminants challenging regulatory systems, the need for a pragmatic approach to exposure assessment to chemical mixtures, the concern of recycling and reintroduction of potential risks, and emerging issues of endocrine disruptors, microplastics, and marine biotoxins.

“From food chain operators at production levels up to consumers, everyone has to care and make sure food is safe”

- Vittorio Fattori

Dr. Davor Janjatovic continued the discussion of tropane alkaloids following two incidents reported by WFP in 2019. These two incidents involved contamination by *Datura stramonium* seeds, similar in size to grains such as soy, sorghum, and buckwheat, and sparked joint work between FAO/WHO and WFP to develop specifications for regulatory limits on toxic seed contaminants and tropane alkaloids in foods, prior to which there were few references for tropane alkaloids and datura seeds

in grain limits in any legislations or guidance. Additionally, WFP now has a risk analysis of the probability of tropane alkaloid presence in products, the high category containing grains in comparable size to *Datura* seeds and in the negligible category, non-crop related products. Following the incidents and risk assessment done by FAO/WHO, Dr. Janjatovic highlighted that suppliers implemented corrective action yielding decreased levels of tropane alkaloids across supply chains. Communication with suppliers, however, found several technical limitations to performing quality management monitoring. Moving forward, WFP is tracking and analyzing the risk of other toxic seeds, for example *Crotalaria*, in addition to their standard testing program of products.

Hannalien Meyer gave a unique South African perspective on mycotoxin contamination in grain. The SAGL conducts maize and wheat crop quality projects for the agricultural industry in South Africa every season using an accredited, in house method of one analysis for the 13 most important mycotoxins. It is important to note that the samples tested represent all the production regions of South Africa proportionally to production. Over 9 seasons, results show that only DON is present in South African wheat, with the highest concentration found greatly below the maximum allowable limit, and certain perceptions were changed in the maize industry when only 3 individual samples of aflatoxin were found in South African maize. Seasonal and regional variations and higher concentrations in specific consignments were found following secondary analysis of results by region. SAGL concludes that these different patterns of occurrence of mycotoxins, due to season and production region, emphasize the need for continuous monitoring and benefits of this long term monitoring include more samples along the entire food chain and imports being tested, expanding of regulations for mycotoxins in grains for human consumptions, identification of hot spots for producers to make informed decisions, and improvement of grain storage facility strategies to handle consignments.

Quentin Johnson led the Q&A Discussion with a handful of directed questions for panelists. This discussion allowed panelists to further express the importance of mycotoxin testing and the evolving dynamic between specifications and practice methods in order to control these contaminants, the accessibility to new scientific evidence and adaptations for lower- and middle-income countries, and more.

Panel 5: Food Assistance Supply Chains and Traceability



Panel 5, moderated by Dr. Pinar Keskinocak, brought together various supply chain and traceability experts. The panelists explored current technological and programming efforts to optimize food supply chains and track and trace food products, ensuring the right quality and quantity of food products are delivered.

Greg Olson opened the session with a discussion on transparency, traceability, and visibility in the context of food supply chains. He stressed the role of these three traits in ensuring proper capture and transfer of product information along the supply chain and providing a permanent audit trail that allows verification of product quality while tracing the food through the different chains of custody. He clarified that transparency and traceability combine to create visibility and that the three allow us to monitor, work with partners, quickly respond, and fulfill our mandate of providing humanitarian assistance. He then discussed the imperative role of data standardization in transparency and the need for data sharing agreements to ensure prevention of future issues such as miscommunication.

Dr. Ozlem Ergun provided an overview of supply chain activities undertaken by the FAQR team in the last 4-5 years. Particularly, she highlighted the system-wide supply chain optimization and prediction model and prototype tool, which incorporates all supply chain activities from procurement to delivery, and demonstrates its impact and value, including its potential to help identify locations for USAID global warehouses that would be most cost-effective. Dr. Ergun reviewed the study overview, highlighting the stochastic warehouse location mixed integer linear programming (MILP) model that allows us to see the optimal global warehouse locations. She reviewed specific studies, including examining demand visibility in Ethiopia which showed that extending visibility beyond 3 months improves delivery and cost-effectiveness. She then reviewed results of the flag rule, suggesting current implementations increase cost while choosing when to satisfy the regulation could save money. After laying out locations for ideal warehouse placement, she concluded that by reviewing several studies on timely deliveries, 100 percent on-time delivery is obtainable with a 4.2 percent cost increase. Dr. Stephen Vosti, who collaborates with Dr. Ergun on the supply chain optimization work done by FAQR, was also present and participated in the Q&A Discussion following the presentation.

“Having the system-wide data is important, but also when we are making decisions, having the system-wide perspective and understanding that a supply chain is an interacting network- one lever we play with at one location might have an impact in other parts of the supply chain network. So, when we’re making decisions, it is essential to coordinate and collaborate not only within the organization but also with the different partners along the supply chain.”

– Dr. Ozlem Ergun

Suvrat Bafna’s presentation focused on the need for traceability from a food safety and quality perspective and reviewed ongoing WFP traceability efforts, which aim to generate an improved and adequately automated framework that advances traceability and accountability while reducing risks. He discussed current roadblocks against traceability efforts such as high overhead costs and private sector’s absent efforts when not mandated. The long-term goal of this traceability project is to have the ability to trace every product to the final consumer. Highlighted activities in this framework

include a collaboration with USAID to implement a pilot program using QR codes on RUSF packages allowing for traceability from suppliers to beneficiaries in real time.

Pierre Courtemanche and Vanessa Grondin presented a traceability solution that was adapted to the food aid sector that improves supply chain efficiency, by tracking and tracing movements of food products and capturing information in real-time, across the supply chain from the suppliers to the beneficiaries. He emphasized the importance of stakeholder engagement in this solution with building trust as an important step. Unique identifiers, such as QR codes, can be linked to information and to unlimited capacity access such as in the form of a URL. They highlighted the role of a central depository of unique identifiers being to avoid duplicates and properly classify codes. The end goal was to provide analytics and data for stakeholders to optimize supply chain and demand, something obtainable through operators reporting on all the volumes of product entering and leaving facilities. They concluded by suggesting a drop point be logged via mobile app to assess impact at beneficiary level and reiterated the importance of explaining added value to partners.

The Q&A Discussion was led by Dr. Nina Schlossman and focused on accessibility and usability of available supply chain and traceability. Panelists agreed that data are largely available but need to be made accessible for statistical modeling and analyses that can help to identify what changes need to happen and which partners in the supply chain network need to implement these changes in order to optimize supply chain and traceability efforts. They also noted that data at the local and regional procurement level tend to be either unavailable or insufficient and thus were not included in FAQR's supply chain analyses.

Panel 6: Non-Food Interventions and their Impact on Nutrition Outcomes



Specific interventions discussed during this panel included WASH, SBCC, VSLAs, and gender-sensitive approaches to agricultural production and raising of small livestock and was moderated by Judy Canahuati.

Dr. Marie Ruel and Dr. Rolf Klemm discussed the results and implementation challenges from a nutrition and gender-sensitive agriculture program that had been implemented by HKI in Burkina Faso and evaluated by IFPRI. The project employed a multi-sectoral approach to improving maternal and child nutrition through agriculture production diversity, poultry production, behavior change

“The way we are going with our very intensive programs is that scaling them up is too costly and too much effort. We need to find a way to reduce the complexity of programs but keep something that is high quality and responds to the specific needs of the communities where we’re working, then try to scale it up.”

– Dr. Marie Ruel

communication and women’s empowerment, with the addition of CLTS and LNS in the second phase. Although the program was complex, the RCT yielded promising results at the household, maternal, and child level. The first phase showed a reduction in anemia, wasting and diarrhea in children, and they found that adding WASH and LNS during phase two reduced anemia by an additional 11 and 13 percentage points, respectively.

The complex program was not without its implementation challenges, which Dr. Klemm said centered on the availability of water, the motivation and quality of work of program volunteers, income generation as a competing priority to nutritional improvement, as well as the time- and labor-intensive nature of coordinating such a multi-sectoral program. He also discussed some best practices and learnings from the program, including targeting regions with implementation teams from other projects already on the ground, phasing in additional project sectors over time, and recognizing the constraints of the environment (such as access to land and water, especially among women). Dr. Ruel also suggested that, while complex programs have more of an impact than standard programs, standard programs are easier to scale and can be co-located with interventions led by other partners to alleviate the burden on individual implementers while still maximizing impact.

Anthony Koomson spoke about the impact of a nutrition- and gender-sensitive agriculture and WASH program in Ethiopia that used small animal rearing to increase household protein consumption and generate income and VSLAs to increase access to credit for business, household and personal needs. It also incorporated SBCC, including baby WASH to prevent child consumption of small animal feces. The project, like the one in Burkina Faso discussed by Dr. Ruel and Dr. Klemm, primarily targeted women with education and resources, recognizing their important role in household health and nutrition. As a result of the program, they observed a decrease in children sent to health centers for acute malnutrition and plan to explore stunting outcomes in the final evaluation.

Finally, Buck Bradshaw discussed evidence and results from a SPIR DFSA in Ethiopia that employed a mixed methods impact evaluation on the causal impacts of key nutrition and livelihoods activities.

The livelihood transfer, which included either a one-time poultry rearing kit or a one-time cash transfer had not been previously studied, but showed promising results in improving nutrition. He explained that the poultry package appeared to be what he referred to as a “sticky transfer” – households were doing their best to maintain the intervention for livelihood and nutrition purposes – and both child and maternal dietary diversity improved as a result of the intervention.

During the Q&A Discussion, Dr. Klemm and Dr. Ruel provided key insights on how to navigate the inevitable program quality issues with complex multisectoral interventions and design high impact interventions that lead to improved nutrition outcomes. Dr. Klemm reiterated the importance of understanding the local context and resources – from women’s land rights, to water availability and other key factors limiting nutritional wellbeing – and that it may be worthwhile to return to programs that have ended to see which program elements have been sustained. Dr. Ruel suggested that a direction for future research would involve comparing the impact and cost-effectiveness of several collocated programs with a multisectoral program.

SPECIAL SESSIONS

Emerging Evidence Lightning Talks
Tools and Resources Marketplace
Online Poster Session

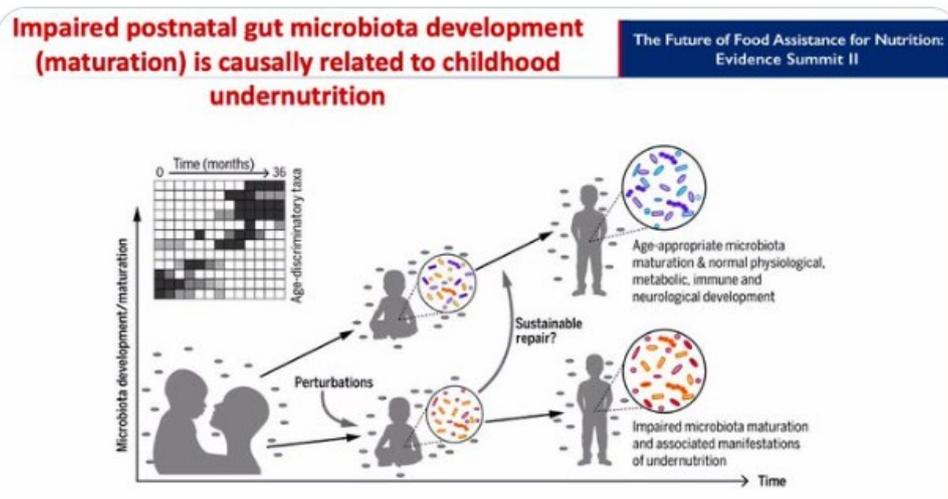
To Access Session Recordings, Click on Each Session Title Below

 #Evidence4Nutrition2



Denise van Wissen @FoodNutSecurity · Oct 8, 2020

Couldn't be more clear--summary slide from #DrTahmeedAhmed.
[#evidence4nutrition2](#) @FoodAidQuality @TuftsNutrition #guthealth



Marko Kerac @GlobalHealthNut · Oct 7, 2020

Important point... severe malnutrition treatment should never be just about giving a product but should be complemented/backed-up by identifying and trying to address other underlying causes.
More evidence on moderate wasting in different settings much needed...



Antonina Mutoro @AntoninaNamaem1 · Oct 7, 2020

I've presented a poster highlighting the cost of treating moderately malnourished children using ready to use foods in Kenya. Nutritionists spend only 5-9 minutes per child per clinic. We advocate for a more personalised approach to treatment #evidence4nutrition2 #Malnutrition

Emerging Evidence Lightning Talks



The Emerging Evidence Lightning Talks included a variety of brief talks highlighting innovative nutrition research.

The session opened with a presentation from Dr. Tahmeed Ahmed who discussed previous and ongoing research on the use of Microbiota-Directed Complementary Foods (MDCF) in the treatment of children with moderate acute malnutrition (MAM) in Dhaka, Bangladesh. MDCFs are made from locally available food ingredients and target the immature gut of wasted children. The results from this research showed that one of the MDCFs, MDCF-2, which was made primarily from raw banana, chickpea, peanut and soybean flour promoted proliferation of targeted bacteria and increased abundance of plasma proteins associated with linear growth, bone development and neurodevelopment in target children.

The next speaker, Dr. Sajid Alavi, reviewed his research on complementary feeding using novel sorghum-based extruded fortified blended foods (FBFs). He presented studies where sorghum-based FBFs, which have less viscosity than corn-based FBFs, require less cooking time and fuel, and are more palatable, were shown to have a similar effect on anthropometric and micronutrient (iron and vitamin A) outcomes as corn-based FBFs in infants and young children. Dr. Alavi also provided an update on the USAID-funded ongoing study of packaging evaluation and accelerated shelf-life study for fortified rice, which looks at coating and extrusion technologies and the impact of different packaging alternatives on deterioration kinetics of fortified rice.

Pilar Charle Cuellar presented on the decentralized model that utilizes Community Health Workers (CHWs) in the treatment of SAM. She reviewed studies conducted in Mali, Niger, and Mauritania, which highlighted the cost-effectiveness and increased accessibility to treatment achieved by using CHWs and consequently eliminating the need to travel long distances to health facilities for SAM treatment.

Dr. Akriti Singh reviewed a sub-study of the Sierra Leone study conducted by FAQR that looked at the effects of biomarkers of environmental enteric dysfunction (EED) on growth and recovery from MAM. The study resulted in the identification of novel EED biomarkers for measuring intestinal permeability, inflammation and anti-microbial gut defense, which were shown to be associated with growth and recovery from MAM.

Stacy Griswold presented findings from analyses conducted on data from FAQR's Sierra Leone study, which explored factors related to failure to recover from MAM following admission to a supplementary feeding program. Results of the analyses demonstrated that exposures to infectious disease appear to be related to progression to SAM and that different exposures may be experienced by non-responders compared to children who progress to SAM. Ilana Cliffer discussed a recently published sub-study of FAQR's Burkina Faso study that assessed how caregivers modified their feeding behaviors when provided with various food aid items. The study revealed that consumption of food aid items resulted in displacement of household cereals but not more nutrient dense foods. Moreover, supplementation appeared to have no effect on dietary diversity or breastfeeding time.

Tools and Resources Marketplace



The Tools and Resources Marketplace session included an overview of various food assistance tools and resources for improved efficiency and effectiveness in the field of food assistance for nutrition to demonstrate how these tools can add value to attendees' work.

The first speaker, Justin Hackett presented FACET4SNF tool, a tool designed to facilitate evidence-informed decision-making with the goal of improving the cost-effectiveness of nutrition programs that use specialized nutritious foods (SNFs) to treat MAM/SAM and prevent stunting, wasting and underweight. He explained that the tool allows users to compare cost-effectiveness, cost-efficiency, and other indicators across various scenarios by changing inputs related to SNF product choice, procurement and program design. He said the tool also provides users with downloadable data and visualizations to use in proposal development, endline review, planning future activities, and new product evaluation. Ye Shen added that there is a user manual for the tool and trainings will be scheduled for those interested in using FACET4SNF in their work.

Next, Lauren Thompson discussed the REFINE database, a knowledge-sharing platform for food assistance interventions. She explained that articles included in REFINE are selected based on the criteria that the study considers a nutrition condition, employs a nutritionally-enhanced food assistance product designed to prevent or treat undernutrition and assesses outcome measures such as birth outcomes, anthropometric outcomes, cognitive development, product acceptability, morbidity or default. The database, Ms. Thompson said, also categorizes articles by the research gaps they address in categories such as adaptability, composition, cost, effectiveness, efficacy, innovation and use. Presently, the database contains 323 articles from 2011 to 2020, a majority of which are studies based in Sub-Saharan Africa and Asia-Pacific, studies that employ a standard LNS, and studies which explore effectiveness as their primary research gap.

Conor Prenderville introduced the Conditional On-Demand Assistance (CODA) for Nutrition Programming, a technology product that addresses the challenges caused by poor data and weak information systems on the ground. He explained that CODA is a digital application for individual digital care management that allows nutrition actors to identify, track and manage participants and report on the outcomes and outputs of the interventions, and he said that its aim is to promote data-driven nutrition programming through more efficient services and more informed policy and research.

Federico Naccarato explained that CODA is employed on the ground using a customizable beneficiary chip card technology that stores digital data offline. He said this data can eventually be uploaded to a cloud database once internet connectivity is available, after which analytics are generated and disseminated to key stakeholders. CODA is currently being used by health workers, implementing partners, WFP country offices and in-country nutrition cluster actors in 50 CMAM sites in five countries. Mr. Naccarato identified key strengths of the technology, including increased adherence to criteria, improved efficiency, a reduction in error, its adaptability to changing programs and its offline functionality, while recognizing opportunities for improvement such as technological robustness, interoperability with national systems, standardization of implementation and facilitate use across the continuum of care, and measure its programmatic effects.

Finally, Dr. Dylan Walters discussed the Cost of Not Breastfeeding Tool, developed in collaboration with Alive and Thrive with the objective of making the quantifiable impacts of not breastfeeding accessible for policy makers and advocates to support domestic advocacy, policy change and investments. It is an online (web and Excel-based), open-access, evidence-based modelling tool that uses open access data on over 25 indicators and from over 120 countries to estimate the health and economic costs of not breastfeeding, such as morbidity and mortality, health systems costs, cognitive losses, and household formula cost. He concluded with findings about the annual global costs of not breastfeeding and the opportunities the country-level, context-specific information provides for policy change and advocacy related to breastfeeding and maternal and child nutrition, especially in the context of the COVID-19 pandemic.

Online Poster Session

The Online Poster Session highlighted new and ongoing research projects, as well as programmatic elements currently under investigation with respect to food assistance for nutrition. A number of authors from global non-profit organizations were represented, including Save the Children, CARE, ACDI/VOCA, Greenshoots Foundation, and ACF. Poster authors also included several academic institutions from Cornell University, Washington State University, Makerere University, ITT Bombay, University of Copenhagen, Washington University in St. Louis, Oklahoma State, University of Glasgow, and Tufts University also presented their work. 15 authors were selected to speak briefly about their work. All posters were displayed on the *Evidence Summit II* [virtual event hub](#) throughout the duration of the summit. The poster titles and authors are provided below:

Title: Cost of the Diet Assessment in Zinder Region, Niger

Presenting Author: Meghan Pollack, Save the Children

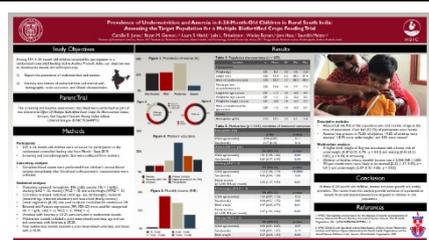
Authors: Meghan Pollack, Na Oume Habou Ibrahim, Michele Seibou



Title: Prevalence of undernutrition and anemia in 6-24-month-old children in rural South India: assessing the target population for a multiple biofortified crops feeding trial

Presenting Author: Camille E. Jones, Cornell University

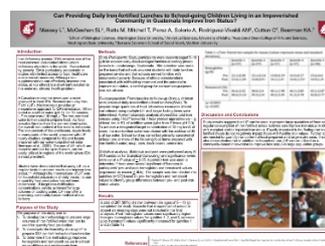
Authors: Camille Jones, Bryan Gannon, Laura Hackl, Julia Finkelstein, Wesley Bonam, Jere Haas, Saurabh Mehta



Title: Can Providing Daily Iron-Fortified Lunches to School-Going Children Living in an Impoverished Community in Guatemala Improve Iron Status?

Presenting Author: Kathy Beerman, PhD, Washington State University

Authors: Massey L, McGeehan SL, Ratts M, Mitchell T, Perez A, Solorio A, Rodriguez-Vivaldi AM, Cotten C, Beerman K



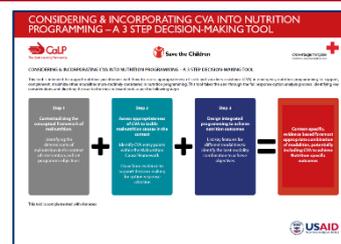
Title: Factors Associated with Enrollment of Children Aged 6-23 months into the Maternal and Child Health and Nutrition Programme, Kotido District

Presenting Author: Catherine Ninsiima, Makerere University



Title: Considering & Incorporating CVA into Nutrition Programming - A 3 Step Decision-Making Tool

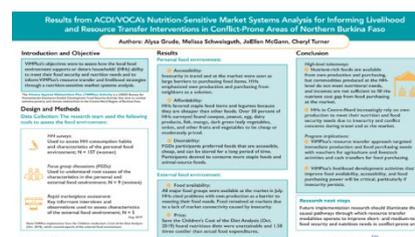
Presenting Author: Nathalie Klein, Save the Children



Title: Results from ACDI/VOCA's Nutrition-Sensitive Market Systems Analysis for Informing Livelihood and Resource Transfer Interventions in Conflict-Prone Areas of Northern Burkina Faso

Presenting Author: Alysa Grude, ACDI/VOCA

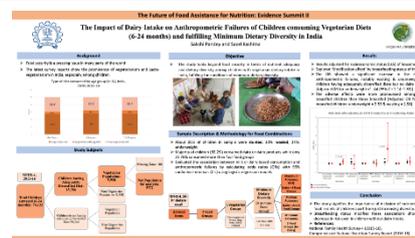
Authors: Alysa Grude, Melissa Schweisguth, JoEllen McGann, Cheryl Turner



Title: The Impact of Dairy Intake on Anthropometric Failures of Children Consuming Vegetarian Diets (6-24 months) and Fulfilling Minimum Dietary Diversity in India

Presenting Author: Sakshi Pandey, (CTARA), IIT Bombay

Authors: Sakshi Pandey, Saori Kashima



Title: Cost of the diet tool in the design of nutrition sensitive intervention in Burkina Faso

Presenting Author: Nael Jean-Baptiste, Save the Children

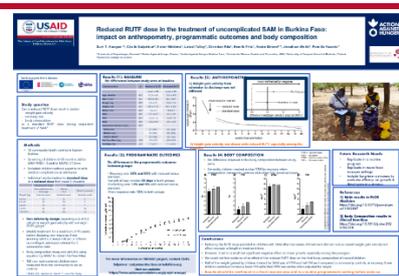
Authors: Nael Jean-Baptiste, Aurelien Barriquault



Title: Reducing the RUTF dose prescribed to severe acute malnourished children: effect on anthropometry, programmatic outcomes and body composition

Presenting Author: Dr. Suvi T. Kangas, University of Copenhagen, ACF

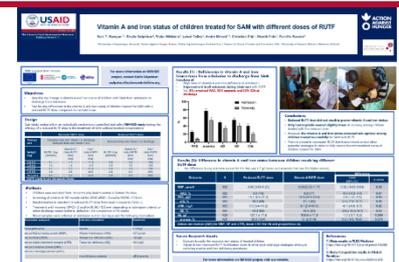
Authors: C. Salpeteur, V. Nikiema, L. Talley, C. Ritz, H. Friis, A. Briend, J. Wells, P. Kaestel



Title: Vitamin A and iron status of children treated for SAM with different doses of RUTF

Presenting Author: Dr. Suvi T. Kangas, University of Copenhagen, ACF

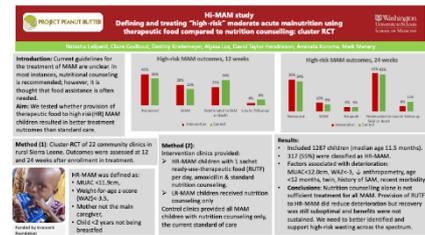
Authors: C. Salpeteur, V. Nikiema, L. Talley, A. Briend, C. Ritz, H. Friis, P. Kaestel



Title: Hi-MAM study: Defining and treating “high-risk” moderate acute malnutrition using therapeutic food compared to nutrition counselling: cluster RCT

Presenting Author: Natasha Lelijveld, Washington University in St. Louis

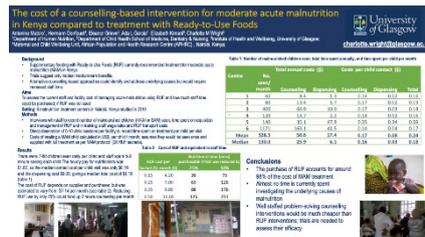
Authors: Natasha Lelijveld, Claire Godbout, Destiny Krietemeyer, Alyssa Los, David Taylor Hendrixson, Aminata Koroma, Mark Manary



Title: The cost of a counseling-based intervention for moderate acute malnutrition in Kenya compared to treatment with Ready-to-Use Foods

Presenting Author: Dr. Antonina N. Mutoro, University of Glasgow

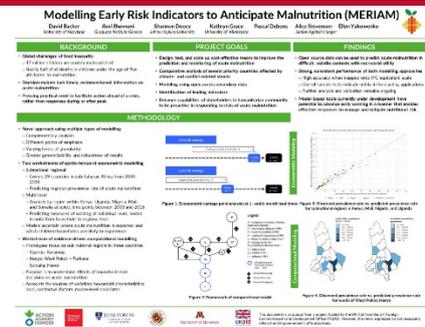
Authors: Antonina Mutoro, Hermann Donfouet, Eleanor Grieve, Ada L. Garcia, Elizabeth Kimani, Charlotte M. Wright



Title: Modelling Early Risk Indicators to Anticipate Malnutrition (MERIAM)

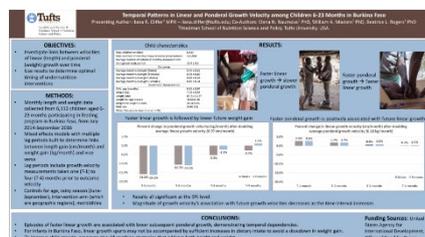
Presenting Author: Alice Stevenson, ACF

Authors: David Backer, Ravi Bhavnani, Shannon Doocy, Kathryn Grace, Pascal Debons, Alice Stevenson, Ellyn Yakowenko



Title: Temporal Patterns in Linear and Ponderal Growth Velocity Among Children Aged 6-23 Months in Burkina Faso

Authors: Ilana Cliffer (Tufts University), Elena Naumova, William Masters, Beatrice Rogers



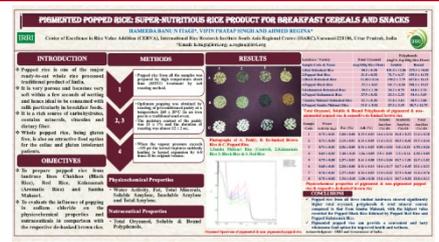
Title: Nutrition-Sensitive MMDs: Improving Food Security & Nutrition Among 1,000 Days Women and Children

Authors: Oumarou Tankari (CARE), Andrea Menefee, Coleen Farrell, Patsy Orkar



Title: Pigmented Popped Rice: Super Nutritious Rice Product for Breakfast Cereals and Snacks Treatment programs in Zimbabwe

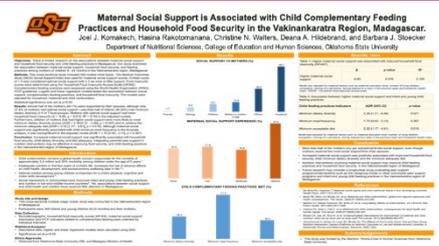
Authors: Hameeda Banu N Itagi (Center for Excellence in Rice Value Addition, CERVA), Vipin Pratap Singh, Ahmed Regina



Title: Maternal Social Support is Associated with Child Complementary Feeding Practices and Household Food Security in the Vakinankaratra Region, Madagascar

Presenting Author: Joel J. Komakech, Oklahoma State University

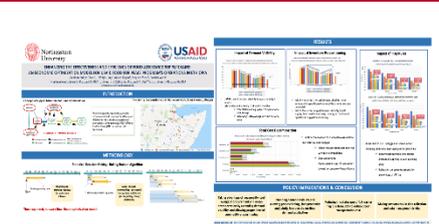
Authors: Joel Komakech, Hasina Rakotomanana, Christine Walters, Deana Hildebrand, Barbara Stoecker



Title: Enhancing the Effectiveness and Efficiency of Food Assistance Supply Chains: an Economic Optimization Model for USAID Food For Peace Programs Operations in Ethiopia

Presenting Author: Keziban Tasci, Northeastern University

Authors: Keziban Tasci, Weijia Jing, Ozlem Ergun, Stephen Vosti, Patrick Webb



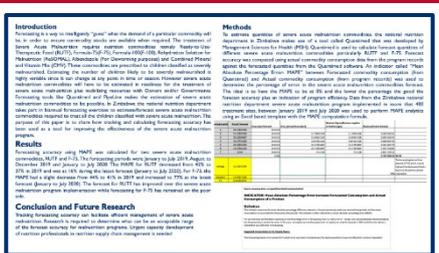
Title: Greenshoots: Program Strategies for Food Assistance

Author: Muneezay Jaffery, Greenshoots Foundation



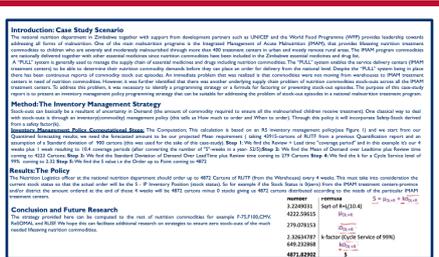
Title: Measuring Forecasting Accuracy to improve effectiveness of Severe Acute Malnutrition Treatment programs in Zimbabwe

Author: Wisdom Dube



Title: A Programming strategy for addressing stock-outs of nutrition commodities: An Inventory Management Policy Case-study

Authors: Wisdom Dube



ANNEXES

ANNEX I. EVENT AGENDA



USAID
FROM THE AMERICAN PEOPLE

The Future of Food Assistance for Nutrition: Evidence Summit II
October 5-8, 2020
Agenda for Live Online Event

Day 1: Monday, October 5			
8:45-9:00 EDT	Welcome to The Future of Food Assistance for Nutrition: Evidence Summit II		
9:00-9:45 EDT	Keynote Address: 'How the World Has Changed...Yet Stayed the Same'		
9:45-10:45 EDT	Plenary I: What Does New Science Tell Us about Food Assistance for Nutrition?		
10:45-11:15 EDT	Discussion		
11:15-11:30 EDT	Break		
11:30-12:30 EDT	Plenary II: Continuum of Care, Wasting, and Avoiding the MAM/SAM Dichotomy		
12:30-13:00 EDT	Discussion		
13:00-13:15 EDT	Day 1 Wrap-Up		
Day 2: Tuesday, October 6			
8:45-9:00 EDT	Day 2 Welcome		
9:00-10:00 EDT	Panel 1: Intakes of Micronutrients and Animal Source Foods for Nutrition Outcomes	Panel 2: Packaging of Food Assistance Products: Challenges and Outlook	Panel 3: Alternative Formulations for Food Assistance for Nutrition Products
	Discussion	Discussion	Discussion
10:00-10:30 EDT	Discussion		
10:30-10:45 EDT	Break		
10:45-11:45 EDT	Plenary III: Implications of Treatment and Prevention of Malnutrition Strategies for Food Assistance Programming		
11:45-12:15 EDT	Discussion		
12:15-13:00 EDT	Tools and Resources Marketplace		
13:00-13:15 EDT	Day 2 Wrap-Up		
Day 3: Wednesday, October 7			
8:45-9:00 EDT	Day 3 Welcome		
9:00-10:00 EDT	Panel 4: Food Safety and Naturally Occurring Contaminants in Food Assistance Products	Panel 5: Food Assistance Supply Chains and Traceability	Panel 6: Non-Food Interventions and their Impact on Nutrition Outcomes
	Discussion	Discussion	Discussion
10:00-10:30 EDT	Discussion		
10:30-10:45 EDT	Break		
10:45-11:45 EDT	Plenary IV: Adapting Programming and Protecting Logistics for Food Assistance during Pandemics and Other Crises		
11:45-12:15 EDT	Discussion		
12:15-13:00 EDT	Online Poster Session		
13:00-13:15 EDT	Day 3 Wrap-Up		
Day 4: Thursday, October 8			
8:45-9:00 EDT	Day 4 Welcome		
9:00-9:45 EDT	Emerging Evidence Lightning Talks		
9:45-10:45 EDT	Plenary V: Food Assistance for Nutrition: What Do We Still Need to Know?		
10:45-11:15 EDT	Discussion		
11:15-12:00 EDT	Closing Address		

ANNEX 2: RESOURCES

FAQR References

FAQR Website <https://foodaidquality.org>

Evidence Summit II Virtual Event Hub <https://evidencesummit2.wordpress.com>

USAID / BHA References

BHA Website <https://www.usaid.gov/humanitarian-assistance>

Tools and Resources Marketplace

[Food Assistance Cost-Effectiveness Tool for Specialized Nutritious Foods \(FACET4SNF\)](#)

[Research Engagement on Food Interventions for Nutritional Effectiveness \(REFINE\)](#)

[Conditional On-Demand Assistance \(CODA\) for Nutrition Programming](#)

[Cost of No Breastfeeding Tool](#)

ANNEX 3. ZOOM AND WORDPRESS ATTENDEE ANALYTICS

Zoom provided downloadable analytics following each webinar session including registered attendee names, emails, and country of residence at the time of logging in to the event. The following analytics were completed based off of attendee data from the Zoom spreadsheets.

Figure 3.1: Participation by session at the Evidence Summit II.

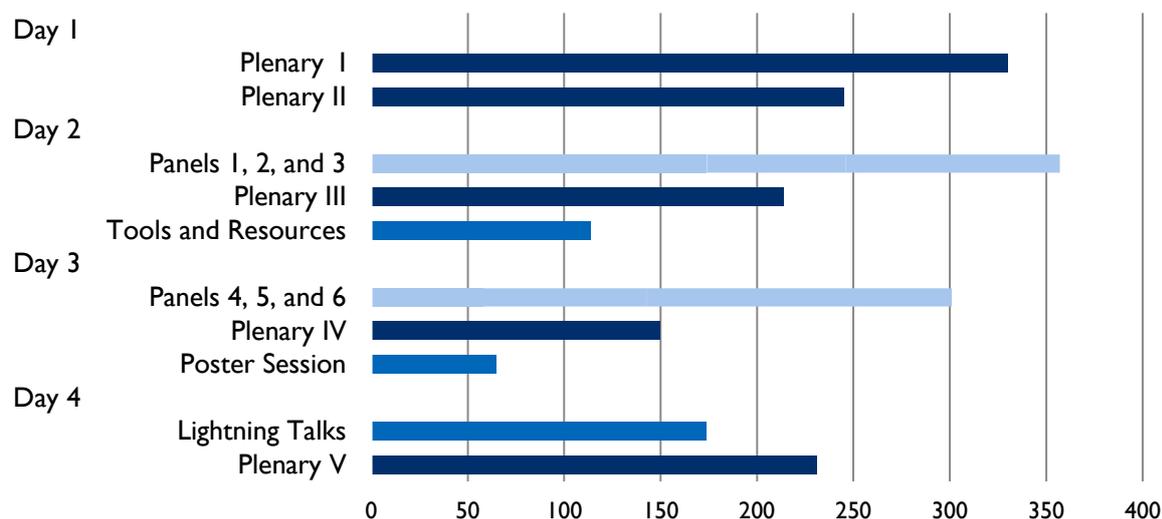
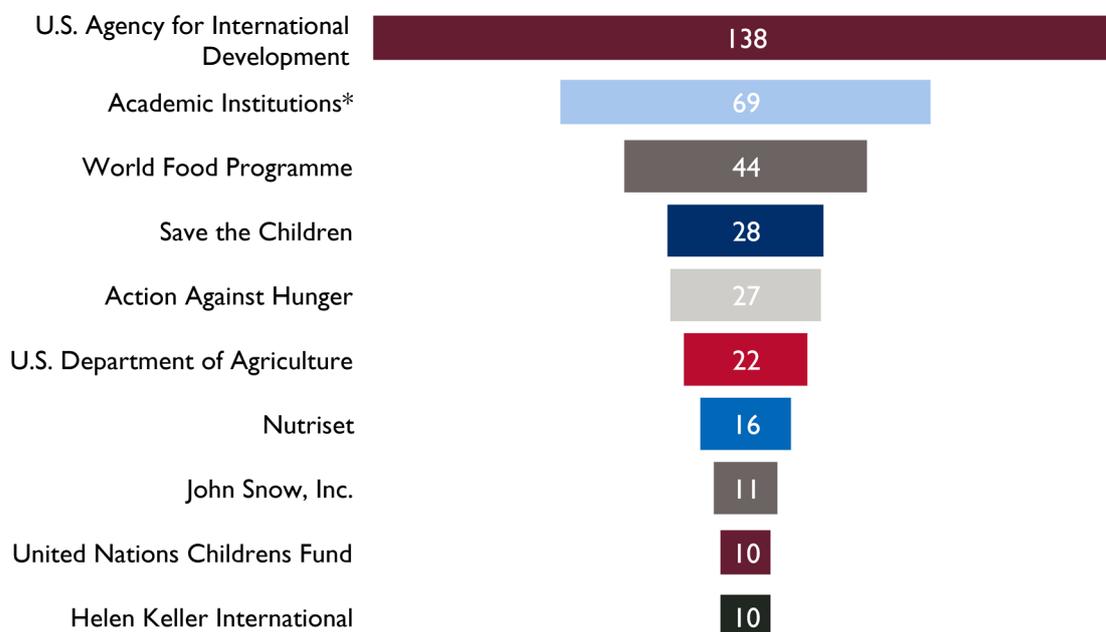


Figure 3.2: Top 10 Organizations with greater than 10 unique affiliated attendees (by email).



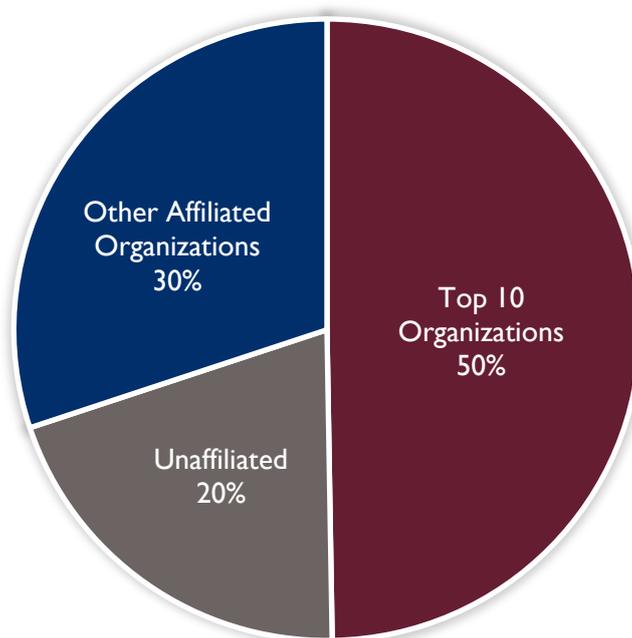
*Academic Institutions included McGill University; Tufts University; Massachusetts Institute of Technology; University of Florida; University of Massachusetts; Johns Hopkins University; George Washington University; Polytechnic University of the Philippines; Washington University, St. Louis; Northeastern University; Harvard University; Cornell University; University of South Carolina; University of Sydney; University of California, Davis; Virginia Tech; Howard University; New York University; Kansas State University; University of Wisconsin; University of Washington; Michael Okpara University of Agriculture, Umudike, Abia State; Washington State University; University of Toronto; London School of Hygiene & Tropical Medicine; and University College London.

The following organizations were also represented based on affiliated email addresses of participants that were not considered in the top 10.

Table 3.1: Organizations with $5 \leq n < 10$ attendees (based on affiliated email).

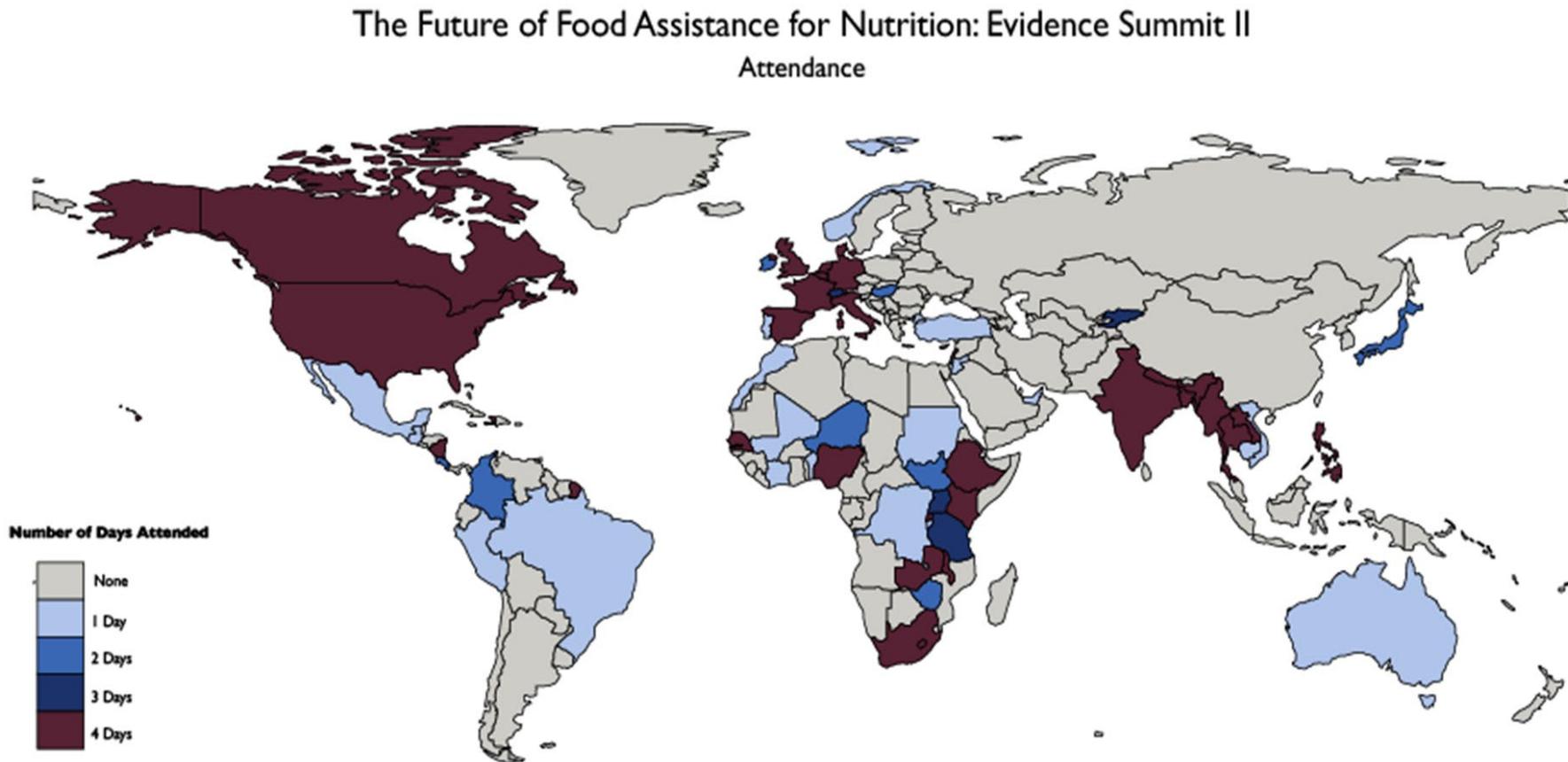
Organization	Unique Affiliated Attendees (by email)
Catholic Relief Services (CRS)	9
Family Health International (FHI)	9
Food for the Hungry (FH)	9
Mercy Corps	9
CGIAR	8
Edesia Nutrition	8
International Rescue Committee (IRC)	8
World Vision	7
Médecins Sans Frontières (MSF)	6
Emergency Nutrition Network (ENN)	5
Nascent Solutions Inc.	5

Figure 3.3: Representation of Attendees based on Organization Affiliation (by email).



**Unaffiliated representation includes participants who logged in with a Yahoo, Gmail, Outlook, etc. account.*

Figure 3.4: Representation of Participation by Country of Residence at the time of the Evidence Summit II.



740 Unique Attendees • 62 Countries

ANNEX 4. PARTICIPANT SURVEY ANALYTICS

Participant surveys were conducted each day of the Summit. A daily email was sent to all registrants at the conclusion of the final session directing them to the Qualtrics link. Additionally, the survey link was coordinated to populate after attendees left the final Zoom webinar of each day,

Table 4.1: Participant Survey Response Count.

Day Collected	Number of Surveys Collected
Day 1	46
Day 2	31
Day 3	30
Day 4	40
Final	92
= 239 total survey responses	

Figure 4.1: Effectiveness of Evidence Summit II Virtual Format (n = 173).

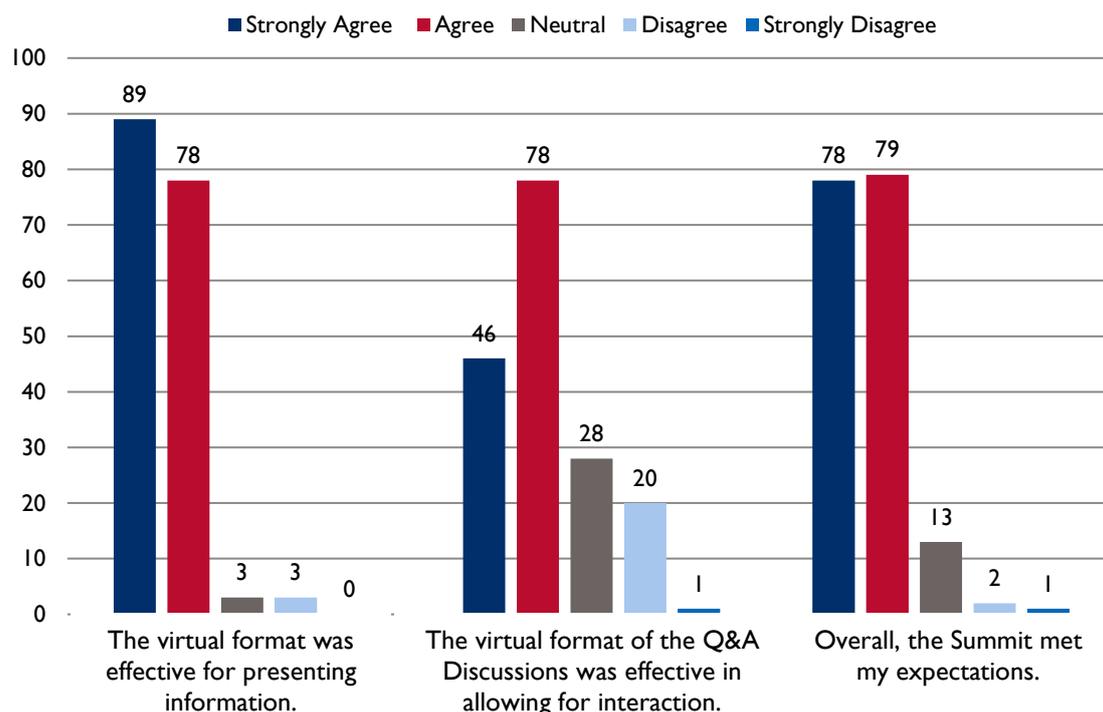
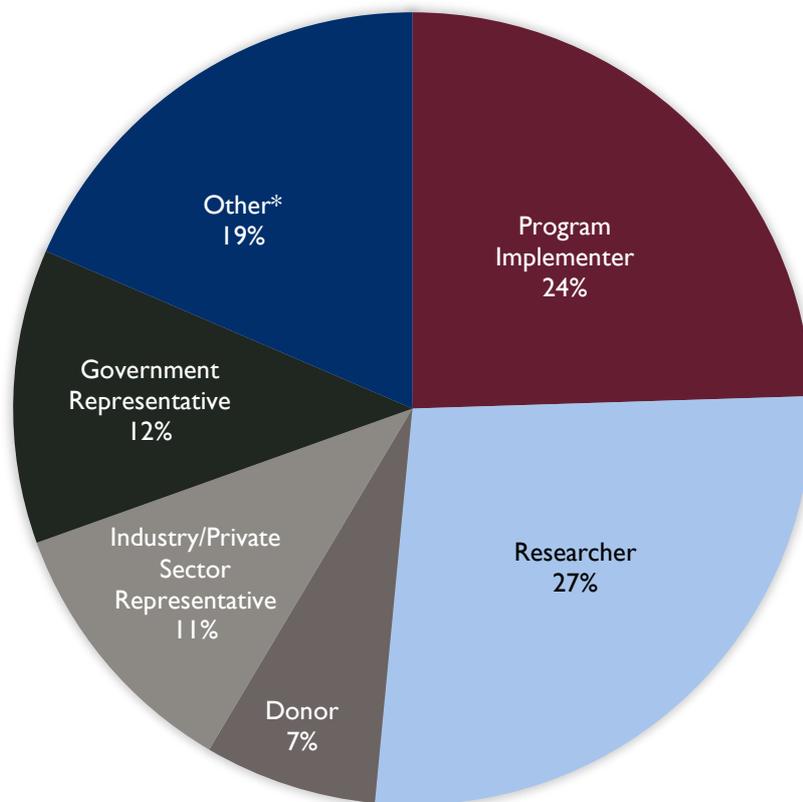


Figure 4.2: Reported Participant Roles in Food Assistance for Nutrition (n = 200).



**Participants who selected “Other” reported roles including Registered Nurse, Student, Consultant, and Auditor.*