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Blanket Supplementary Feeding in the Democratic Republic of the Congo

Findings from a Learning Activity

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Contents

Acknowledgments v
Acronyms vi
Executive Summary viii
Objectives and Learning Questions viii
Methodology viii
Findings ix
Discussion xi
Conclusion xii
Recommendations xii
Introduction 1
Background and Rationale 2
Objectives and Learning Questions 3
Methodology 4
Sampling 6
Data Analysis 7
Limitations 8
Findings 9
Learning Question 1: BSFP Design by WFP in DRC and Alignment with Global Standards 9
Defining BSFP 9
Geographic Targeting 10
Beneficiary Targeting 13
Design Challenges 16
Learning Question 2: BSFP Implementation in DRC Compared to Global Guidelines 16
Contracting and Partner Selection 16
Program Timing, Duration, and Rations 18
Monitoring 21
Complementary Interventions 24
Implementation Challenges 29
Learning Question 3: BSFP Phase Out in DRC 30
Learning Question 4: Wasting Trends in DRC 34
Learning Question 5: Global Evidence Base for BSFP 35
Effectiveness of BSFP in Preventing/Stabilizing Wasting 36
Transfer Modalities 40

Cost-Effectiveness and Cost-Efficiency 45
Implementation Factors 47
Learning Question 6: BFSP Funding in DRC 48
Discussion, Conclusion, and Recommendations 50
Discussion 50
Conclusion 51
Recommendations 53
References 55
Annex 1. Geographic Targeting Data for Health Zones Selected for BSFP in January 2023 59
Annex 2. SNSAP Trend Data 61

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Acronyms

BCC	behavior change communication
BHA	Bureau for Humanitarian Assistance
BSFP	blanket supplementary feeding programs
CODESA	comité de développement sanitaire des aires de santé (health area development committee)
CSB[+]	corn-soy blend [plus]
DHIS2	District Health Information System 2
DRC	Democratic Republic of the Congo
ECHO	European Civil Protection and Humanitarian Aid Operations
FCDO	[UK] Foreign, Commonwealth, & Development Office
g	gram
GAM	global acute malnutrition
HRP	Humanitarian Response Plan
HQ-LNS	high-quantity lipid nutrient supplement
IDP	internally displaced person
IMAM	integrated management of acute malnutrition
IPC	Integrated Food Security Phase Classification
IYCF[-E]	infant and young child feeding [in emergencies]
LNS	lipid-based nutrient supplement
MAM	moderate acute malnutrition
MD	mean difference
M&E	monitoring and evaluation
mm	millimeter(s)
MQ-LNS	medium-quantity lipid nutrient supplement
MT	metric tons
MUAC	mid-upper arm circumference
NGO	nongovernmental organization
OR	odds ratio
PLW	pregnant and lactating women
PRONANUT	Programme National de Nutrition (National Nutrition Program)
RR	risk ration
RUSF	ready-to-use supplementary food
SAM	severe acute malnutrition

SBC[C]	social and behavior change [communication]
SD	standard difference
SMART	Standardized Monitoring and Assessment of Relief and Transitions
SMD	standard mean difference
SNSAP	Système nutritionnel de surveillance et d'alerte précoce (Nutritional Surveillance and Early Warning System)
SNF	specialized nutritious food
SQ-LNS	small-quantity lipid nutrient supplement
UN	United Nations
UNICEF	United Nations Children's Fund
UNS	Unité Nutritionnelle Supplémentaire (MAM supplementary feeding program)
USAID	U.S. Agency for International Development
WASH	water, sanitation, and hygiene
WHZ	weight-for-height z-score
WLZ	weight-for-length z-score
WFP	World Food Programme
WHO	World Health Organization

Executive Summary

Given the high levels of food insecurity and wasting among children in the Democratic Republic of the Congo (DRC) (WFP 2022c; OCHA 2021, USAID's Bureau for Humanitarian Assistance (BHA) and the USAID Mission in the DRC have made significant investments through the World Food Programme (WFP) in blanket supplementary feeding programs (BSFP) in the DRC. Food distributions, such as BSFP, are common interventions in conflict and food-insecure settings, yet there is little evidence about their coverage and effectiveness as a strategy to prevent wasting. USAID Advancing Nutrition designed and implemented a learning activity to help fill this evidence gap.

Objectives and Learning Questions

The objectives of this learning activity were to (1) review how WFP has designed and implemented BSFP in the DRC over the last 3–5 years, including the identification of any global guidance used, and (2) provide information to help determine appropriate circumstances for using BSFP in the DRC in the future. While this learning activity focuses on the DRC, we hope it will provide broader learning and considerations about BSFP in similar settings. The main learning questions are the following:

1. How has WFP **designed** its BSFP in the DRC (e.g., stakeholders consulted, data sources used) and is it aligned with any existing global standards?
2. How has WFP **implemented** BSFP in the DRC and used global guidance?
3. How has WFP decided how to **phase out** BSFP in a specific area (e.g., stakeholders consulted, data sources used)? How long does the phase-out process take?
4. Based on secondary data, what are the **wasting trends** in select health zones where BSFP has been implemented in the DRC?
5. Based on existing evidence, to what extent has BSFP been **effective to prevent/stabilize wasting** in the DRC and in contexts similar to the DRC?
6. Which **other donors** have funded BSFP in the DRC?

Methodology

We used a mixed methods approach to answer the learning questions above. We used qualitative semi-structured interviews to answer learning questions 1–3 and 5–6, desk reviews of existing resources and literature to answer learning question 5, and conducted secondary analysis for learning question 4.

For **learning questions 1–3 and 5–6**, we conducted semi-structured interviews with a purposive sample of stakeholders—donors, experts on BSFP, and relevant stakeholders in the DRC—who are knowledgeable about and work on BSFP. We conducted a mix of individual and group interviews, with some in person and some online. We audio-recorded the interviews with consent and produced transcripts in English for analysis. In total, we conducted 17 interviews with 30 informants. We reached our target sample size of 20–30 informants but did not reach our target sample size of 4–6 per informant group for government stakeholders and global experts due to scheduling difficulties. We developed a codebook with deductive themes identified prior to data analysis based on the research questions and topics of interest. We coded the data in Atlas.ti, conducted thematic analysis to identify themes and patterns, and compared coded data by informant groups based on their role and geographic level.

For **learning question 4** on wasting trends, we (1) analyzed monthly trends of moderate and severe wasting, caseloads between 2018–2022 for children 6–59 months in select health zones using available District Health Information System 2 (DHIS2) facility admissions data; and (2) reviewed 2019–2022 Système nutritionnel de surveillance et d'alerte précoce (Nutritional Surveillance and Early Warning

System [SNSAP]) data for moderate and severe wasting quarterly trends. We originally planned to compare this estimated caseload with caseload data from DHIS2 to determine unmet need but the DHIS2 data quality was not reliable enough to do this comparison (e.g., wasting case counts were higher than population estimates). We purposively selected health zones for this analysis in which (1) WFP implemented BFSP in the last 3–5 years; (2) health zones are inclusive of a range of contexts (e.g., complex emergency [eastern provinces] and more stable [greater Kasaï region]); (3) monthly moderate and severe wasting admissions rates are available for 2019–2022; and (4) a SMART survey took place in 2019–2022.

We conducted a descriptive literature review on the effectiveness of BSFP for wasting prevention for **learning question 5**. For the purposes of this review, we included studies that distributed specialized nutritious foods (medium quantity lipid nutrient supplement [MQ-LNS] or fortified blended flours), cash, or vouchers to prevent wasting to everyone in a community within a subpopulation (e.g., children under 5, pregnant women) and that assessed a measure of wasting. We reviewed the articles identified across databases and extracted key findings and evidence gaps in a common template.

Because this learning activity involved primary data collection, we submitted it to JSI's Institutional Review Board for review and received an exemption. We developed informed consent scripts in English that were also translated into French. The informed consent script emphasized that this is a learning activity and not a formal evaluation of the interviewee's organization or WFP programming.

Findings

Below we summarize the findings for each learning question.

Learning Question 1 (BSFP Design in the DRC): The Nutrition Cluster in the DRC prioritizes which health zones should have BSFP based on global acute malnutrition (GAM) rates and Integrated Food Security Phase Classification (IPC) level. The Nutrition Cluster then works with partners, including WFP, to determine targets based on funding and operational capacity. In the DRC, WFP largely directs the design and planning process for BSFP when contracting local or international nongovernmental organizations (NGOs) as implementing partners. Each year WFP contracts local or international NGOs to implement BSFP. Once engaged, these implementing partners conduct mass screenings with the *relais communautaires* (community volunteers) to identify children 6–23 months and PLW (when funds allow) who are not wasted. There was not a definitive global guidance document that informants reported using when designing BSFP, although there is some DRC-specific BSFP guidance included in the country's national *Integrated Management of Acute Malnutrition* (IMAM) *Protocol* (*Protocole National Prise en charge de la Malnutrition Aigue)* and joint guidance from the Food Security Cluster, Water Sanitation and Hygiene (WASH) Cluster, and Nutrition Cluster. Challenges during targeting include inaccessibility due to poor infrastructure and/or insecurity, finding higher populations than expected, and low-quality screening measurements.

Stakeholder Definitions of BSFP

Based on interviews, stakeholders understood BSFP to be a supplementary feeding program that provides specialized nutritious food (e.g., lipid-based nutrient supplements [LNS] or fortified blended flours) to all individuals in specific vulnerable groups to fill nutrient gaps (e.g., pregnant and lactating women [PLW] and children 6–23 months). As a supplemental feeding program, it is meant to provide specialized nutritious food (SNF) that is additional to the usual diet. Most informants, particularly those in the DRC, identified wasting prevention as the objective of BSFP. It was the wasting prevention goal for children and PLW that distinguishes BSFP from general food distribution and targeted supplementary feeding.

Learning Question 2 (BSFP Implementation in the DRC): BSFP distribution is planned for during the lean seasons, which are typically from October to December in the northeast, October to January in the east-central, and January to April in the southeast (FEWS NET 2023). WFP supplies implementing partners with SNF, which the implementing partners distribute monthly. Partners coordinate with health centers to distribute MQ-LNS (e.g., Plumpy'Doz) to children 6–23 months; and fortified blended flour (e.g., corn-soy blend [CSB+] or Super Cereal), oil, and sugar (when available) to PLW. Children's anthropometric status is checked at distributions. To monitor BSFP, implementing partners primarily monitor coverage, adherence, and caseloads, and WFP assesses dietary indicators through baseline and post-distribution monitoring surveys. However, several implementing partners noted that they do not know the true impact of BSFP and cannot prove its effectiveness because there are no impact evaluations done. As part of BSFP, implementing partners most commonly provided social and behavior change (SBC) interventions on nutritious foods and infant and young child feeding (IYCF). Typically, treatment is provided in the same health zones as BSFP and some areas have other health and development programs. Informants reported interrelated challenges, primarily related to funding (including insufficient funding and short funding cycles), supply chains, transportation, security, monitoring, and data.

Learning Question 3 (BSFP Phase-Out in the DRC): BSFP planning takes place annually as part of the HRP development, which helps to determine where BSFP will be implemented. Some health zones are targeted for multiple years in a row for BSFP while others are not. This decision is made on an annual basis during the broader humanitarian response planning process, during which the Nutrition Cluster prioritizes health zones for nutrition interventions. If a health zone is not prioritized in a given year by the Nutrition Cluster, BSFP will not be implemented in that health zone for that year. Informants provided few details on how the end, or phaseout, of BSFP is communicated to communities and instead emphasized the need to continue and expand coverage of BSFP.

Learning Question 4 (Wasting Trends in the DRC): We were unable to identify trends in wasting admissions data or trends in caseloads of other childhood diseases that may be driving wasting rates in the DRC due to the unreliable quality of the available secondary data (e.g., reported caseloads were higher than population estimates). Rather than seasonal trends, we saw a general deterioration of the nutrition situation over the period examined. Therefore, we were also unable to draw any conclusions about the appropriateness of the timing of BSFP distributions during the lean season or the overall appropriateness of BSFP as a way to prevent/reduce wasting caseload within the DRC context.

Learning Question 5 (Global Evidence Base for BSFP): The evidence base on BSFP for wasting prevention is inconclusive as the evidence is limited, mixed, and variable in quality. Six of seven studies we reviewed on BSFP found at least one statistically significant positive but small effect on a wasting measure. While more high-quality evidence is needed to determine if and when BSFP is effective and which program design components are most effective in different settings, findings suggest that BSFP may be effective when—

- provided to children only (Kaul et al. 2018; Das et al. 2019; Pérez-Expósito and Klein 2009) and to children and PLW (Oirere, Hall, and Ndumi 2019; CDC 2012; Leroy et al. 2021)
- delivered with other health, nutrition, and food assistance interventions (Das et al. 2019; Oirere, Hall, and Ndumi 2019; CDC 2012; Leroy et al. 2021).

The evidence on conditional and unconditional cash transfers as a modality is not conclusive, but both have been found to reduce wasting and unconditional cash transfers have also been found to reduce wasting when delivered with other interventions (Daalen et al. 2022; Langendorf et al. 2014).

Facilitators of BSFP include providing a high-quality and acceptable supplement in larger quantities; ensuring a consistent supply; having an enabling home environment, strong caregiver support, capable and motivated staff; and involving stakeholders in last-mile distribution (Kristjansson et al. 2016).

Constraints to BSFP include poor acceptance of the supplement, supply chain and distribution issues, sharing the supplement among household members, low caregiver capacity, not having an enabling home environment, and poor implementation and monitoring and evaluation (M&E) (Kristjansson et al. 2016; Kaul et al. 2018; Young et al. 2004).

Learning Question 6 (BFSP Funding in the DRC): USAID, via WFP, has been the primary funder of BSFP in the DRC in recent years. According to Nutrition Cluster mapping data from the start of 2023, the only active funders of BSFP in the DRC included WFP and WorldVision. At the global level, both donors we spoke to, European Civil Protection and Humanitarian Aid Operations (ECHO) and USAID, stated that they try to be very selective about where they implement BSFP and placed an emphasis on contextual considerations including the level of food insecurity, access, and other types of nutrition programming in the intervention area.

Discussion

At the global level, there is no definitive guidance document on BSFP and the guidance that does exist is not harmonized. Stakeholders also suggested that the forthcoming World Health Organization (WHO) wasting guidelines will be relevant, meaning that further updates may be required in the near future. The WFP *Food and Nutrition Handbook* and the Moderate Acute Malnutrition [MAM] Decision Tool provide the most detailed guidance on BSFP implementation, whereas guidance in the *Sphere Handbook* is limited. WFP and the MAM Decision Tool guidance are harmonized on giving the highest level of prioritization to children 6–23 months for BSFP and are generally harmonized on the products to be provided, with some minor deviations in the types of fortified flours. However, from there, the guidance largely begins to diverge, especially when it comes to geographic targeting. WFP guidance states that BSFP should be provided in geographic areas with high GAM and where it is possible to implement from an operational perspective (WFP 2018), while the MAM Decision Tool emphasizes using BSFP in emergency contexts and considers aggravating factors, such as increased morbidity, decreased food security, significant population displacement, and population density (GNC 2017).

A lack of harmonized global guidance on BSFP likely contributed to the lack of consistency among DRC-specific BSFP guidance documents as well. Although BSFP in the DRC is implemented according to very broad global guidance standards in terms of targeting the correct populations, it is difficult to determine how closely some guidance is followed due to a lack of information (e.g., on targeting adherence and co-location of complementary interventions).

Guidance about BSFP M&E does not exist in any of the reviewed documents. Global guidance and DRC-specific guidance characterize BSFP as an intervention to prevent wasting. However, the current indicators used to measure BSFP outcomes, minimum dietary diversity for women and minimum acceptable diet for children, are not appropriate for this intended objective. Measuring the impact of BSFP can be complex and challenging especially when multiple interventions target the same population. However, there is a clear need for more work to be done in developing and/or identifying more appropriate indicators and global guidance to measure BSFP's intended outcome.

The global evidence base on BSFP is inconclusive as it is limited, mixed, and of varying quality. Existing evidence has found that specific BSFP designs have resulted in small, statistically significant wasting reductions in different program settings. However, more high-quality evidence is needed to determine if and when BSFP is effective and which program design components are most effective in different settings (e.g., targeting criteria, duration of programs, delivering with other interventions). Our review suggests that existing evidence is largely in line with global guidance (GNC 2017; WFP 2018), including providing SNF to children under 5 or 6–23 months (Kaul et al. 2018; Das et al. 2019; Pérez-Expósito and Klein 2009; Oirere, Hall, and Ndumi 2019; CDC 2012; Leroy et al. 2021), providing BSFP during the lean season (Kaul et al. 2018; Oirere, Hall, and Ndumi 2019), providing BSFP

with food assistance (Leroy et al. 2021), providing MQ-LNS or fortified blended flours (Das et al. 2019; Oirere, Hall, and Ndumi 2019; CDC 2012, Leroy et al. 2021), and providing cash transfers in appropriate circumstances (Aurino and Giunti 2022; Manley, Alderman, and Gentilini 2022; Daalen et al. 2022; Langendorf et al. 2014).

Conclusion

BSFP has contributed to wasting reductions among highly vulnerable populations in some contexts and with some project designs. However, more high-quality evidence is needed to determine the most effective SNF and program designs (e.g., targeting criteria, duration of programs, complementary food assistance, and health interventions). Further, the current global guidance for BSFP is not harmonized, and in some cases, does not address elements of program design that some studies suggest may influence effectiveness. In light of the forthcoming *WHO guideline on the prevention and management of wasting and nutritional oedema (acute malnutrition) in infants and children under 5 years* (WHO 2023b), global nutrition practitioners should take the opportunity to conduct additional research into BSFP effectiveness and then update global guidance to align with the new WHO Guidelines and current evidence base for BSFP and similar food-based prevention interventions. The design and implementation of BSFP in the DRC can be improved to align with the existing evidence base, and implementers and donors should collaborate to address the main implementation challenges around SNF supply chains and funding.

Recommendations

Based on the findings across the learning questions, we developed several recommendations for WFP and donors focused on BSFP in the DRC and more broadly applicable to BSFP in similar humanitarian and protracted emergency situations.

- **In the DRC, WFP, in consultation with nutrition stakeholders, should consider—**
    1. working with the Nutrition Cluster and the DRC Programme National de Nutrition (National Nutrition Program [PRONANUT]) to make selection criteria transparent and consistent. When funding is insufficient to reach all eligible populations, consider reviewing vulnerability criteria to reach the most at-risk populations given consistent funding shortfalls.
    2. conducting primary research to determine the geographically specific drivers of wasting, including whether they are seasonal, whether BSFP is the appropriate prevention intervention for the targeted geographic areas, and when to implement BSFP if appropriate.
    3. providing implementing partners with longer term (e.g., 2-year), flexible agreements to reduce administrative burden and allow for longer-term planning. This action would require the Nutrition Cluster to either prioritize health zones for a longer time or require WFP to build flexibility into the agreements so partners can change their implementation areas should geographic priorities change during the contract period.
    4. in the long term, working with government stakeholders to improve the quality of wasting data and develop plans to transition BSFP to national social protection plans and budgets (e.g., using USAID Advancing Nutrition guidance on developing plans to transition USAID-funded activities to domestic plans and resources).
- **Globally, WFP, donors, and researchers should consider—**
    1. filling key evidence gaps on the effectiveness of BSFP to prevent wasting by funding experimental or quasi-experimental studies (ideally multi-country) that test the comparative effectiveness and cost-effectiveness of—

- different targeting approaches, including children's age, pregnancy status, and vulnerability criteria
- small quantity lipid nutrient supplement (SQ-LNS) in emergency contexts
- different packages of SNF with short-term nutrition and health interventions integrated with BSFP (e.g., vitamin A supplementation, deworming, immunization, breastfeeding counseling, IYCF SBC, and multiple micronutrient supplementation for pregnant women) and general food assistance or cash transfers
- different timing and length of BSFP package distribution
- different SNF for PLW to prevent wasting (e.g., balanced energy protein supplementation, SQ-LNS formulations for women, and Super Cereal).

2. reviewing the following aspects of BSFP guidance during update processes based on an expanded evidence base and in light of the recently released *WHO guideline on the prevention and management of wasting and nutritional oedema (acute malnutrition) in infants and children under 5 years*:
   - the timing and length of distributions based on the primary drivers of wasting in subnational areas
   - provision of general food assistance or cash transfers alongside BSFP to support the household.

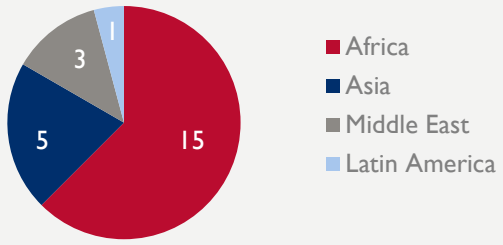
Introduction

As of December 2022, the World Food Programme (WFP) estimated that 26.4 million people in the Democratic Republic of Congo (DRC) are food insecure, with the majority of the country under crisis or emergency conditions (Integrated Food Security Phase Classification [IPC] 3 and 4) (WFP 2022c). Among those food-insecure populations are an estimated 1.9 million children under 5 with moderate wasting, 887,000 children under 5 with severe wasting, and 2.2 million pregnant and lactating women (PLW) who are acutely malnourished (IPC 2022). Food insecurity has been a long-term challenge in the DRC—in late 2021, it was estimated that the DRC had the highest number of people living with acute food insecurity in the world (OCHA 2021). Aggravating factors such as ongoing insecurity, natural disasters, and communicable disease outbreaks persist, and COVID-19 and the conflict in Ukraine are making the situation even more difficult due to rising food and fuel costs.

To address these challenges, there is a wide range of interventions implemented by both emergency and development actors in the DRC. Treatment for both moderate and severe wasting is supposed to be provided as an integrated health service, as per the country's national *Integrated Management of Acute Malnutrition* (IMAM) *Protocol* (*Protocole National Prise en charge de la Malnutrition Aigue*). However, these services are not universally available and are primarily supported through implementing partners, the United Nations Children's Fund (UNICEF) and WFP. Emergency partners, coordinated by the Nutrition Cluster, also provide emergency infant and young child feeding (IYCF-E) services to an estimated 1.4 million people in need (RDC Cluster Nutrition 2023). WFP also provided in-kind food assistance to 2.4 million people and cash assistance to 1.4 million people in 2022 (WFP 2022b).

A blanket supplementary feeding program (BSFP) is one approach commonly used to support food-insecure households. BSFP is an important tool to prevent the deterioration of nutritional status of at-risk groups (e.g., PLW) and, in some circumstances, prevent wasting in children under 5 during periods where food availability may be insufficient. In 2022, the Global Nutrition Cluster reported that BSFP activities were implemented in 24 countries (see figure 1) and reached nearly 11 million children 6-23 months and PLW. However, this represents only 42 percent of the more than 26 million people estimated to need these services (GNC 2023).

Figure 1. Global Geographic Distribution of BSFP, 2022



BSFP is one of the nutrition activities supported by WFP and implementing partners in the DRC to combat the country's ongoing food insecurity. According to the DRC national IMAM protocol, the products provided include medium quantity lipid-based nutrient supplements (MQ-LNS), such as Plumpy'doz, for children 6-23 months and Super Cereal with vegetable oil and sugar or Super Cereal Plus with vegetable oil for PLW. The DRC's 2022 Humanitarian Response Plan targets 654,000 people for BSFP. Of this number, 350,000 are children aged 6–23 months—an age group typically at high risk for wasting. Targeting numbers for PLW fall even shorter of the estimated needs. Only 303,000 PLW have been targeted out of an estimated 1.3 million in need. The Global Nutrition Cluster reported that the target for children 6–23 months was ultimately exceeded, reaching 506,000 children 6–23 months with BSFP support; however, PLW programming fell short of the target, reaching only 194,000 women (GNC 2023). The 2023 Humanitarian Response Plan (HRP) states that it will target 20 percent of children 6–23 months and 20 percent of PLW with BSFP, with the strategic framework document (*Cadre stratégique*) indicating total targeting figures just below these targets: 135,280 (13 percent) children 6–23 months and 150,363 (14 percent) PLW (OCHA 2023a, OCHA 2023c).

Background and Rationale

There is no definitive global guidance document or protocol for the implementing BSFP. We identified three documents at the global level that provide varying amounts of detail and guidance on when and how BSFP should be implemented. These documents include the WFP *Food and Nutrition Handbook* (2018); the Global Nutrition Cluster's *Moderate Acute Malnutrition: A Decision Tool for Emergencies* (2017); and the *Sphere Handbook* (Sphere Association 2018). However, all three guidance documents note that BSFP is an intervention that is meant to support the prevention of wasting, particularly in young children and PLW. Country-specific guidance from the DRC on BSFP implementation also varies; however, BSFP in the DRC is also framed as a wasting prevention activity.

The USAID Bureau for Humanitarian Assistance (BHA) has made significant investments through WFP in BSFP in the DRC in recent years. Although BSFP is one of WFP's activities that aims to prevent wasting, there is limited evidence about its effectiveness. In a recent systematic review on nutrition interventions in conflict settings, only one article about the DRC, from 1995, was included. There is some evidence showing the effectiveness of supplementary feeding on weight and height gain for children under 2 and for birth outcomes for pregnant women. However, there have been few high-quality studies about the effects of supplementary feeding and few studies on the impact of large-scale programs (Kristjansson et al. 2016; Visser et al. 2018; Bhutta et al. 2013). There are also evidence gaps around cost-effectiveness for BSFP, whether blanket distribution is suitable for protracted emergencies, and the long-term effects of BSFP (Bhutta et al. 2013; Visser et al. 2018).

Given these evidence gaps in the DRC specifically and more broadly, the inconsistency in guidance on the criteria for its use, USAID Advancing Nutrition designed a learning activity in collaboration with BHA to understand more about how BSFP is implemented in the DRC and the global evidence on the effectiveness of BSFP to prevent wasting.

Objectives and Learning Questions

The objectives of this learning activity were to (1) review how WFP has designed and implemented BSFP in the DRC over the last 3–5 years, including by identifying any global guidance used, and (2) provide information to help determine appropriate circumstances for using BSFP in the DRC in the future. While this learning activity focuses on the DRC, we hope this will provide broader learning and considerations about BSFP in similar settings.

USAID asked USAID Advancing Nutrition to respond to the following questions to address objective 1 on WFP implementation in the DRC (questions 1–3) and objective 2 on circumstances for using BSFP in the DRC in the future (questions 4–6):

Objective 1: Review how WFP has designed and implemented BSFP in the DRC over the last 3–5 years, including by identifying any global guidance used.

1. How has WFP **designed** its BSFP in the DRC (e.g., stakeholders consulted, data sources used) and is it aligned with any existing global standards?
    a. How has WFP consulted during design with stakeholders such as the National Nutrition Program (Programme National de Nutrition [PRONANUT]), nongovernmental organizations (NGOs), provincial and health zone authorities, the Nutrition Cluster, and the Ministry of Health? How do these stakeholders perceive this approach?
    b. How does WFP decide which populations to target for BSFP (e.g., stakeholders consulted, data sources used, criteria used)?
2. How has WFP **implemented** BSFP in the DRC and used global guidance?
    a. What other interventions has WFP implemented with the same participants who received BSFP?
    b. How has WFP consulted with stakeholders during implementation, such as PRONANUT, NGOs, provincial and health zone authorities, the Nutrition Cluster, and the Ministry of Health? How do these stakeholders perceive this approach?
    c. How does implementation differ from the planned design?
3. How has WFP decided how to **phase out** BSFP in a specific area (e.g., stakeholders consulted, data sources used)? How long does the phaseout process take?

Objective 2: Provide information to help determine appropriate circumstances for using BSFP in the DRC in the future.

4. Based on secondary data, what are the **wasting trends** in select health zones where BSFP has been implemented in the DRC?
5. Based on existing evidence, to what extent has BSFP been **effective to prevent/stabilize wasting** in the DRC and in contexts similar to the DRC?
    a. What other activities (e.g., water, sanitation, and hygiene [WASH], health) have been shown to be effective when delivered with BSFP to prevent/stabilize wasting?
    b. How cost-effective has BSFP been to prevent/stabilize wasting?
    c. To what extent have other food distribution modalities, such as cash and vouchers, been effective to prevent/stabilize wasting in contexts similar to the DRC?
6. Which **other donors** have funded BSFP in the DRC?
    a. What rationale have these donors used for deciding to fund or not to fund BSFP in the DRC and other similar contexts?

Methodology

We used a mixed methods approach to answer the learning questions above. We used qualitative semi-structured interviews and desk reviews to answer learning questions 1–3 and 5–6 and conducted secondary analysis for learning question 4.

For **learning questions 1–3 and 5–6**, we used qualitative semi-structured interviews with donors (BHA, European Civil Protection and Humanitarian Aid Operations [ECHO], and WFP), experts on BSFP from academia, and relevant stakeholders in the DRC (PRONANUT, WFP implementing partners, WFP, and Nutrition and Food Security Cluster coordinators). We conducted a mix of individual and group interviews. The USAID Advancing Nutrition activity team conducted interviews online in English for global level interviews. The in-country DRC Nutrition Specialist conducted interviews with stakeholders in the DRC in French in person, when possible, or online. We audio-recorded the interviews with consent from the interviewees and transcribed the interviews using an external transcription service. For interviews conducted in French, interview recordings were transcribed from French and then translated into English for analysis.

The interviews aimed to understand stakeholder's experiences and perceptions. For **learning question 1**, the interviews focused on the decision-making process and criteria that WFP uses to design BFSP, including targeting and stakeholder engagement. For **learning question 2**, the interviews focused on how WFP and its partners implement BFSP, what other interventions they implement alongside BSFP, and how they engage stakeholders during implementation. For **learning question 3**, the interviews focused on the decision-making process and criteria that WFP uses when deciding whether to phase out BSFP in a particular locality. For **learning question 5**, we asked questions about our expert informants' understanding of the state of the evidence of BSFP and evidence gaps, and we solicited recommendations for publications to review. For **learning question 6**, we sought to understand the decision-making process and criteria that donors have used to decide when to fund BFSP.

For **learning question 4** on wasting trends, we analyzed monthly trends of moderate and severe wasting caseloads between 2018–2022 for children 6–59 months in select health zones using available District Health Information System 2 (DHIS2) facility admissions data. We also reviewed 2019–2022 Système nutritionnel de surveillance et d'alerte précoce (Nutritional Surveillance and Early Warning System [SNSAP]) data for moderate and severe wasting quarterly trends in our selected health zones. We originally planned to compare this estimated caseload with caseload data from DHIS2 to determine unmet need, but the DHIS2 data quality was too poor to do this comparison (see Limitations).

We used data from peer-reviewed and grey literature for **learning question 5**. We conducted a non-systematic, descriptive literature review[1] on the effectiveness of blanket supplementary feeding for wasting prevention. For the purposes of this review, we included studies that distributed specialized nutritious food (SNF), cash, or vouchers to prevent wasting to everyone in a community within a subpopulation (e.g., children under 5, pregnant women) and that assessed weight-for-height or weight-for-length as outcomes. We also included studies regardless of IPC levels and emergency status, as that information was not consistently provided in the literature. We limited our review to the two types of SNF recommended in the WFP *Food and Nutrition Handbook* (WFP 2018) and MAM Decision Tool (GNC 2017)—fortified blended flours and ready-to-use supplementary food (RUSF)/MQ-LNS. We excluded studies focused only on targeted supplementary feeding interventions, that pooled results for BSFP and targeted supplementary feeding, or where it was unclear what type of supplementary feeding program (targeted or blanket) was being described.

[1] Non-systematic, descriptive literature reviews include literature on a certain topic meeting inclusion criteria, while allowing some flexibility in inclusion criteria. Only one team member reviews the literature, and the literature is synthesized qualitatively (Paré and Kitsiou 2016).

We searched for reports and peer-reviewed articles on blanket supplementary feeding in *Field Exchange*, Food Aid Quality Review, USAID Development Experience Clearinghouse, and Google Scholar. In Google Scholar, we conducted two searches for articles published between 2010–2022 using the following search terms:

- ("blanket supplementary feeding" OR "blanket feeding" OR "supplementary feeding" OR "general food distribution") AND ("DRC" or "Democratic Republic of the Congo")
- ("blanket supplementary feeding" OR "blanket feeding" OR "supplementary feeding" OR "general food distribution") AND "nutrition" AND ("effectiveness" OR "impact" OR "cost-effectiveness" OR "implementation").

We first screened article titles and then abstracts until the search results were no longer relevant. We aimed to primarily include review articles that summarize previously published research. However, we included primary research studies in two cases: (1) those recommended by experts we interviewed, including peer-reviewed and non-peer reviewed evaluations of USAID-funded and WFP-funded BSFP investments, and (2) cost-effectiveness studies, as evidence on that topic is very limited. We excluded non-systematic reviews if they only reported findings from systematic reviews or meta-analyses already included in our review. In total, we included 10 peer-reviewed and 6 non-peer-reviewed or grey literature documents in our literature review. Table 1 summarizes our literature review, including the types of documents included. As this was not a systematic review, we do not include the number of excluded studies.

Table 1. Literature Review Summary

Literature Type	BSFP	Other Modalities	Cost-efficiency and -effectiveness	Total
Grey literature (Non-peer reviewed): Number of documents				
Review	1	2	1	4
Primary research	2	0	0	2
Peer-reviewed literature: Number of documents				
Review	2	3	0	5
Primary research	2	1	2	5
Total	7	6	3	16

Because this learning activity involved primary data collection, we submitted it to JSI's Institutional Review Board for review and received an exemption. We developed informed consent scripts in English that were also translated into French. The informed consent script emphasized that this is a learning activity and not a formal evaluation of the interviewee's organization or WFP programming.

Sampling

For the interviews for **learning questions 1–3 and 5–6**, we worked with BHA and the in-country DRC Nutrition Specialist to develop a purposive list of WFP staff, relevant stakeholders, and other donors who are knowledgeable about and work on BSFP under six categories of informants for the interviews: (1) WFP implementing partners involved with designing and implementing BSFP in the DRC at the national and provincial and/or health zone levels, (2) PRONANUT at the national and provincial level as key government stakeholders in the DRC who engage with WFP on the design or implementation of BSFP, (3) Food Security and Nutrition Cluster coordinators in the DRC at the national and sub-national levels who are knowledgeable about BFSP, (4) BHA and other donor staff involved in making decisions about whether to fund BFSP in the DRC or similar contexts, (5) global experts on BSFP; and (6) WFP staff at the global and country level. In total, we conducted 17 interviews with 30 informants (table 2). We reached our target sample size of 20–30 informants but did not reach our target sample size of 4–6 per informant group for government stakeholders and global experts due to scheduling difficulties.

Table 2. Interview Sample

Informant Group	Global-Level Interviews	National-Level Interviews	Provincial-Level Interviews	Total Interviews
WFP implementing partners	n/a[2]	4 (7 informants)	n/a	4 (7 informants)
Government stakeholders	n/a	1 (1 informant)	2 (2 informants)	3 (3 informants)
Food Security and Nutrition Clusters	n/a	2 (3 informants)	1 (2 informants)	3 (5 informants)
BHA and other donors	2 (5 informants)	0	n/a	2 (5 informants)
Global experts	3 (3 informants)	n/a	n/a	3 (3 informants)
WFP	1 (5 informants)	1 (2 informants)	n/a	2 (7 informants)
Total interviews	6 (13 informants)	8 (13 informants)	3 (4 informants)	17 (30 informants)

For **learning question 4**, in consultation with BHA, we purposively selected health zones to identify those that (1) had an active BSFP program (as of January 2023), (2) are inclusive of a range of contexts (e.g., complex emergency [eastern provinces] and more stable [greater Kasaï region]), and (3) had a recent SMART survey (no older than 2021). In the end, we selected all health zones that met these criteria, as the number of recent SMART surveys was very limited. The health zones selected for the secondary data analysis are presented in table 3.

[2] We did not target informants in the groups labeled as n/a or the types of informants targeted do not exist at that level.

Table 3. Health Zones Selected for Secondary Data Analysis

Province	Health Zone
Kasaï	Kamonia
	Kamwesha
	Mutena
Kasaï Central	Katende
	Muetshi
Kasaï Oriental	Citenge
Sud Kivu	Kabare
	Nundu

Data Analysis

We used thematic analysis to identify the themes and patterns in the narrative data to answer **learning questions 1–3 and 5–6**. We developed a codebook with deductive themes, identified before data analysis based on the research questions and topics of interest. A coder applied the codebook to the English transcripts in Atlas.ti, a qualitative data analysis software package. We then analyzed the data by code and compared coded data by informants' groups based on their role (donor, expert, government, cluster, and implementing partner) and geographic level (global, national, and provincial) to identify common themes and patterns and variations in responses by group.

For **learning question 4**, we used R Studio to clean and compile DHIS2 facility admissions data from our selected health zones. Collected information covered the period from 2018–2022 for severe acute malnutrition (SAM) and moderate acute malnutrition (MAM) treatment admissions and malaria and diarrhea caseloads. We attempted to analyze these data to identify any seasonal trends in SAM and MAM caseload or in the childhood diseases (malaria and diarrhea) that are common drivers of wasting in children. We also looked at admissions for general childhood consultations as a proxy for service accessibility.

Quarterly SNSAP data from 2019–2022 were compiled and synthesized to identify trends when a health zone is classified as on "alert." SNSAP data classify a health zone as on "alert" for wasting in children when the proportion of children with a mid-upper arm circumference (MUAC) <125 millimeters (mm) is greater than or equal to 20 percent or when the proportion of children aged 0–59 months with edema is greater than 5 percent. A health zone is on "alert" for wasting in PLW when the proportion of PLW with an MUAC <230 mm is greater than or equal to 20 percent. These percentages are representative of the populations that visited the health facility sentinel sites. They are not prevalence rates for the entire population.

For **learning question 5**, we reviewed the articles identified across databases and extracted key findings and evidence gaps in a common template.

Limitations

We conducted a small, purposive sample of interviews and were not able to reach our target sample size for government stakeholders and global experts due to scheduling difficulties. This limits our ability to disaggregate findings for those informant groups. Publicly available data on BSFP are limited and only include information on the number of beneficiaries reached and the amount of food products provided. Data on BSFP's impact on wasting prevention are not collected due to the current indicators that are used by WFP and other implementing partners. Therefore, it was not possible to triangulate interview responses about project reach or outcomes using available secondary data on BSFP outcomes. The interview responses about project achievements and outcomes, in particular, are subject to response bias as informants may want to portray their programming in a positive way. There is also a risk of recall bias in the interviews as informants may not accurately remember past events.

For the secondary data analysis, we were not able to conduct the analysis that was originally planned. The DHIS2 data we received for facility admissions were deemed unreliable. For many of the health zones, the total case counts for moderate and severe wasting, as well as for malaria and diarrhea cases, were significantly higher than the population estimate for that given area. While population movements are known to occur in the selected areas, the difference between expected versus reported caseloads was deemed too great to be reliable in several cases. An example from Katende illustrates this point. According to the data used for the 2022 DRC HRP targeting, the total population for Katende is estimated to be approximately 104,000, of whom 19,000 are children 6–59 months old. The lowest total admissions for children 6–59 months with MAM from 2018–2022 was about 31,000 and the highest was about 154,000, both of which far exceed not only the expected annual MAM caseload but also the total population of children 6–59 months. As a result, we were not able to reliably compare DHIS2 SAM and MAM admissions data with estimated caseloads, nor could we identify any meaningful or reliable trends for any of the examined indicators. Alternatively, we synthesized and reviewed SNSAP data from 2019–2022; the limitation with this data is that we are not able to see month-to-month trends, and we were not able to analyze the actual data but instead used what was reported in the publicly available quarterly surveillance reports.

There were several limitations of the peer-reviewed literature and evaluation review. We did not find any studies on blanket supplementary feeding in the DRC. Some review articles pooled outcomes for blanket supplementary feeding and targeted supplementary feeding, so it is not possible to determine which outcomes resulted from blanket distribution specifically. In addition, blanket supplementary feeding is implemented as a package with other interventions in some cases, so the outcomes from the food distribution portion of the project cannot be isolated from that of other interventions (e.g., nutrition education, WASH interventions). Some review articles pooled results from BSFP with and without other complementary interventions. Some review articles did not provide information about the targeting for food distribution, so we excluded those articles. Inconsistent use of the term "blanket supplementary feeding" may have also limited the search results. In addition, we did not explore other potential direct nutrition benefits such as improved dietary intake, birthweight, or weight-for-age, or indirect benefits such as reduced maternal cortisol.

Findings

In this section, we present the findings for each learning question. Learning questions 1–4 and 6 relate to BSFP in the DRC while learning question 5 synthesizes the global evidence base.

Learning Question 1: BSFP Design by WFP in the DRC and Alignment with Global Standards

Summary of Findings: Learning Question 1

The Nutrition Cluster in the DRC prioritizes which health zones should have BSFP based on global acute malnutrition (GAM) rates and IPC acute food insecurity level. The Nutrition Cluster then works with partners, including WFP, to determine targets based on funding and operational capacity. Each year, WFP contracts local or international NGOs to implement BSFP. Once engaged, these implementing partners conduct mass screenings with the relais communautaires (community volunteers) to identify children 6–23 months and PLW (when funds allow) who are not wasted. Challenges during targeting include inaccessibility due to poor infrastructure and/or insecurity, finding higher populations than expected, and low-quality screening measurements.

We reviewed the three identified global guidance documents, WFP's *Food and Nutrition Handbook*, the MAM Decision Tool, and the *Sphere Handbook*, to see how their design guidance for BSFP differed. We then compared DRC-specific guidance documents, which includes the national IMAM protocol (2016) and the *Integrated Food Security, WASH, and Nutrition Manual* (*Manuel intersectoriel pour la réponse humanitaire pour les secteurs eau, hygiène, assainissement [EHA], nutrition, santé, et sécurité alimentaire en RDC*, 2022), to see if these documents were harmonized with each other and to understand how they compare to available global standards. Lastly, we summarize information from key informants about how the design process typically takes place.

Defining BSFP

When determining if an intervention is appropriate for a given context or to meet a given objective, it is important that there is a common understanding of what the intervention is intended to achieve and what it should entail. When we spoke to key informants, particularly at the global level, we were often first asked how we defined BSFP for the purposes of this learning exercise. For these global-level informants, the distinguishing characteristic of BSFP was that it targets the most vulnerable groups, which include children either under 2 or under 5, PLW, and refugee or internally displaced populations.

This lack of clarity on a general definition for BSFP among global-level experts, donors, and practitioners may stem from the fact that there is no single, definitive definition of what BSFP should include, including where, when, and how it should be implemented. We found a fair amount of variation in the basic definition of BSFP, as provided in the three global guidance documents that we reviewed. Key elements of each definition are summarized in table 4.

Globally, all three definitions mention that BSFP is intended to prevent wasting. WFP and the MAM Decision Tool specifically prioritize young children in their definitions, while in the *Sphere Handbook*, the priority target population is not explicitly mentioned. All three sources also mention the use of BSFP in emergency contexts and in areas with high food insecurity. From there, the definitions and additional guidance, which are discussed in the next sections, begin to diverge. This is important, as a lack of a harmonized, clear definition of what a program is and what it is supposed to achieve can lead to further confusion at the implementation level.

In the DRC, key informants were more harmonized on their definition of BSFP as an intervention to prevent wasting and seemed to value its contributions toward this goal. Key informants from the DRC emphasized the target groups of children 6-23 months and PLW and noted that it is different from general food distributions because these specific groups are targeted. National guidance documents in the DRC do not provide a specific definition of BSFP but instead focus on targeting criteria and products to be used.

Table 4. Global Definitions of BSFP

WFP Handbook	MAM Decision Tool	*Sphere Handbook*
"Blanket supplementary feeding programmes (BSFP) are a **core intervention to prevent acute malnutrition in young children**, particularly in contexts where high food insecurity (availability and/or access) or high prevalence of chronic undernutrition exist. BSFP include the provision of SNFs to individuals in a target group, on a regular basis, for a specific period of time. Admission into the programme does not depend on nutritional status but on assessment of risk."	"Blanket supplementary feeding programming is the **standard intervention to prevent acute malnutrition in young children** in an emergency particularly in one where high MAM, high food insecurity (availability and/or access) or high prevalence of chronic undernutrition and micronutrient deficiencies exists prior to the emergency."	"In crises, supplementary feeding is often the primary strategy for preventing and treating moderate acute malnutrition… **blanket supplementary feeding programmes [are] for prevention**. Blanket supplementary feeding programmes are recommended where food insecurity is high and there is a need to expand interventions beyond only moderate acute malnutrition cases."

Geographic Targeting

Global guidance on contextual considerations for BSFP implementation varies. These contextual considerations have implications for the final geographic targeting for the intervention. We have summarized them in table 5. As table 5 illustrates, there is no consistency in the global guidance for geographic targeting criteria. Even basic guidance on food insecurity and GAM thresholds are inconsistent. It is worth noting that although WFP includes the level of food security as a consideration in its definition of BSFP, it does not include it in the geographic targeting criteria that are summarized elsewhere in the *Food and Nutrition Handbook*. Guidance on geographic targeting also varies within country-specific guidance documents in the DRC.

Generally, in the DRC, the Nutrition Cluster plays an important role in the geographic prioritization for all emergency nutrition activities, including BSFP. The Nutrition Cluster participates in the development of the annual HRP, which usually takes place at the beginning of the calendar year. The HRP prioritization exercise for nutrition takes into account weighted criteria for GAM prevalence, SNSAP alert level, stunting prevalence, IPC level, population movement, and the presence of measles, cholera, Ebola, or COVID-19 epidemics when identifying which health zones should be prioritized for nutrition programming. In some cases, health zones prioritized by the Nutrition Cluster for nutrition interventions differ from health zones prioritized in the broader HRP, as the overall HRP prioritization takes into consideration needs from a broader range of sectors. Data used by the Nutrition Cluster for nutrition activity prioritization come from multiple available sources, namely surveys (e.g., SMART surveys, food security assessment surveys, Demographic and Health Surveys), DHIS2, and SNSAP bulletins. Based on these data, the Nutrition Cluster prioritizes which health zones

should receive wasting prevention and/or treatment programming. As a national-level United Nations (UN)-affiliated informant explained:

> "At the end, there is a decision made by the [Nutrition] Cluster, not by WFP, in which health zone[s] it is good to do prevention of acute malnutrition. So the decision is made by the DRC Nutrition Cluster. WFP simply follows, and if you look at the HRP document … they will show which health zone is prioritized for SAM [treatment], which health zone is prioritized for MAM [treatment], and also which health zone is prioritized, at the end, for BSFP." (UN-affiliated, National level)

UN-affiliated informants reported that IPC level and GAM rates are the primary factors used to determine if a health zone will be prioritized for BSFP. UN-affiliated informants reported that they prioritize areas with GAM rates of 10 percent or more and IPC 3 and higher, and one reported that the criteria are GAM above 15 percent or between 10 and 15 percent with aggravating factors such as being classified as IPC 3 or above. Technically, both responses from key informants are correct but vary because national guidance on geographic targeting is not consistent between the national IMAM protocol and the Integrated Food Security, WASH, and Nutrition Manual. The national IMAM protocol is more aligned with the guidance from the MAM Decision Tool, whereas the integrated manual is more aligned with the guidance in the WFP *Food and Nutrition Handbook*, at least in terms of the GAM rates used for prioritization.

Key informants further explained that the Nutrition Cluster further refines geographic targets with partners, including WFP and UNICEF, based on funding and operational capacities. WFP does not have enough resources to reach all the prioritized health zones. It gives first priority to provinces where it already has operational capacity. As of 2023, WFP had operational capacity in eight provinces: Nord Kivu, Sud Kivu, Tanganyika, Ituri, Haut Katanga, Kasai Central, Kasai Oriental, and Kasai. WFP's field-based nutrition team conducts further geographic prioritization in consultation with province-based PRONANUT and Nutrition Cluster teams to further refine the list of health zones targeted for BSFP, based on operational and logistical aspects. This process undertaken by WFP is in line with the guidance provided in WFP's *Food and Nutrition Handbook*, which suggests that operational capacity be taken into consideration as part of targeting.

> "Now, depending on their capacities, they may not cover all the health zones that are indicated by the cluster, but certain zones that they seem to have the capacity to cover. This is an exercise that we usually do with WFP." (UN-affiliated, National level)

As of January 2023, 38 health zones were targeted for BSFP implementation in the DRC. We took a closer look at available GAM and IPC data for these health zones to try to determine if their selection met national geographic targeting criteria. This information is summarized in Annex 1. Of the 38 health zones selected for BSFP implementation, 29 were categorized as high priority by the Nutrition Cluster during the 2023 HRP prioritization exercise. The remaining nine were medium priority. Similarly, all but nine of the selected health zones were also prioritized in the 2023 HRP, although there is not a direct overlap in which health zones were classified as medium priority by the Nutrition Cluster and those that were not prioritized in the HRP. To assess IPC and GAM levels for each health zone, we used IPC projections for January to June 2023 for both acute food insecurity and acute malnutrition to determine if these health zones met these two geographic targeting criteria. Using these projections, all but four health zones (all in Sud Kivu) met the targeting criteria of IPC 3 or above or GAM of ≥ 10 percent or above as outlined in the integrated manual. However, detailed prioritization data for 2023, which includes additional details on population movements and epidemics, have not been made publicly available by the Nutrition Cluster. Therefore, it is difficult to know if other aggravating factors were present in these four health zones to justify their inclusion for BSFP.

Table 5. Geographic Targeting Criteria

Global Guidance			DRC Guidance	
WFP Handbook	**MAM Decision Tool**	**Sphere Handbook**	**National IMAM Protocol**	**Integrated Manual**
• High prevalence of MAM (≥10 percent), or risk of nutritional deterioration that could result in increased MAM caseload. • Capacity and access to reach this population; accessibility by road; existing WFP presence; or existing strong NGO presence. • Government priorities and WFP capacity in a given area. • Indicators of population movement.	Based on considerations of GAM level and risk level. BSFP should be provided when: • GAM is high (>15 percent) • high food insecurity (availability and/or access) • high prevalence of chronic undernutrition and micronutrient deficiencies exist prior to the emergency. For contexts with GAM <15 percent, level of risk should also be assessed in combination with the GAM rate by considering: • increased morbidity • decreased food security • significant population displacement • population density.	• Where food insecurity is high. • Need to expand interventions beyond MAM cases. Decision between prevention and treatment should depend on: • levels of acute malnutrition and numbers of affected people • risk of increased morbidity • risk of decreased food security • population displacement and density • capacity to screen and monitor the affected population using anthropometric criteria • available resources and access to the affected people.	• When GAM prevalence is >15 percent. • When GAM prevalence is between 10 and 14.9 percent with aggravating factors including: — massive population displacement — measles epidemic — retrospective mortality of 2 deaths per 10,000 children under 5.	• In situations of food insecurity (IPC 3 and higher, depending on the duration of the intervention). • If there is a nutrition emergency, defined as GAM ≥10 percent and/or SAM ≥2 percent. • In the case of a cholera epidemic. • In the case of a measles epidemic. • In the case of population movement affecting at least 1,250 people. • In the case of natural disasters.

Beneficiary Targeting

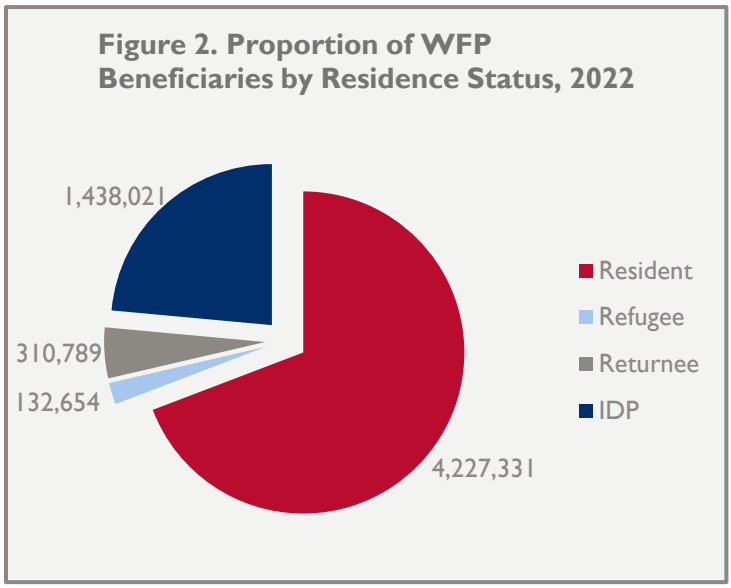
There is also variation in the beneficiary targeting criteria at the global level. Both WFP and the MAM Decision Tool give the highest priority to children 6–23 months, citing their greater risk of mortality, deterioration, and development of stunting and cognitive delays. PLW receive the lowest level of priority in both guidance documents. Both documents also provide additional PLW prioritization guidance that suggests targeting just lactating women with children 0–6 months to help protect breastfeeding and streamline enrollment for the child when he or she reaches 6 months of age. A global-level UN-affiliated informant noted that BSFP is only provided to children up to age 5 under very serious circumstances, otherwise it is provided to those under 2, which is in alignment with global guidance.

Beneficiary targeting guidance in the DRC was generally consistent with available global guidance and prioritizes both children 6–23 months and PLW. The only deviation from the standard 6–23 month and PLW target populations was in the case of a measles epidemic, during which only children 6–23 months are to be targeted, according to the Integrated Manual. Neither DRC guidance document provided any criteria for prioritizing these populations when available resources are limited. Beneficiary targeting criteria for both the global level and the DRC are summarized in table 6

In the DRC, informants consistently saw BSFP as appropriate for vulnerable populations who were defined as PLW and children 6–23 months or children under 5 depending on the situation. A UN-affiliated informant in the DRC explained when BSFP is appropriate:

> "Within the first 1,000 days … from conception until the child is 2 years old … During the first 1,000 days, if the diet of the pregnant woman, the lactating woman, and the child beyond the mother's womb is not appropriate, there is a risk of chronic malnutrition setting in, which is an irreversible form of malnutrition." (UN-affiliated, Provincial level).

Information on the proportion of BSFP beneficiaries from these target groups who were also part of other vulnerable populations, such as internally displaced persons (IDPs), refugees, or returning refugees is not publicly available. WFP reports aggregate numbers of beneficiaries by residence status across its programming. Reporting on these figures for the DRC in 2022 is summarized in figure 2 (WFP 2022b).



Implementing partners conduct targeting exercises in the health zones outlined in their contracts and following WFP guidance. As noted above, these health zones are prioritized by the Nutrition Cluster. While the intent is typically to cover the whole health zone, resource and accessibility constraints do not always permit this as discussed below.

Informants typically reported targeting PLW and children 6–23 months who are not acutely malnourished for WFP-funded BSFP in the DRC. The prioritization of children 6–23 months is in alignment with both global and DRC-specific guidance. In 2023, key informants noted that WFP did not have sufficient funding to provide BSFP to PLW, so only children were targeted. This prioritization in light of resource constraints is also in alignment with global guidance. However, the decision to include PLW in BSFP prior to 2022 and its alignment with global guidance is less clear, as

information on key considerations such as prevalence of low birthweight and IYCF behaviors are not included within prioritization databases used by the Nutrition Cluster. It is also not always clear if PLW have access to moderate wasting treatment in all areas where it is offered or if these services are only for children under 5.

For inclusion in BSFP in the DRC, children 6–23 months must have an MUAC of at least 125 mm, and, when targeted, PLW must have an MUAC of at least 230 mm. WFP provides this guidance to implementing partners on who to target. An implementing partner described the selection criteria:

> "The criteria is that we start with children between 6–23 months. They have to be healthy. They have to [have an MUAC] greater than or equal to 125 millimeters. That's for the children. For pregnant women who are nursing, she has to be a pregnant or nursing woman… for pregnant women, it has to be a pregnancy from the second trimester. For the breastfeeding woman, it is necessary that she is a breastfeeding woman with a child of less than 6 months… These are the criteria that we set a little in advance for the selection of our beneficiaries." (Implementing partner, National level)

Implementing partners reported a consistent process for targeting and subsequent enrollment. Implementing partners reported that they first sensitized the community, including village leaders, about the BSFP, which informants described as an important step to ensure that communities accept the intervention, to avoid creating tensions, and so that providers and beneficiaries are not able to sell the SNF. An implementing partner described the purpose of the sensitization:

> "Our primary role in this regard is to raise awareness among the beneficiary community and the authorities so that they understand the role, the importance and the usefulness of this preventive activity among the beneficiaries that we will have to assist." (Implementing partner, National level)

Then, implementing partners collaborate with the Ministry of Health and work with the *relais communautaires* to conduct mass screenings in the community for wasting using MUAC. The list of eligible children is submitted to the health center and then WFP. If a child is identified as acutely malnourished, they are referred to a treatment program and are not selected for BSFP. An implementer explained this process:

> "We give the go on after signing the protocol with the Ministry of Health, the relais communautaires have to go through the screening. They send us the MAM cases and the SAM cases and the healthy cases and we select the cases that are under criteria with the nurses to see how many cases we can take care of." (Implementing partner, National level)

Implementing partners involve health care providers, village leaders, and the *comité de développement sanitaire des aires de santé* (health area development committee [CODESA]), a group of community members who help manage inputs, in the sensitization and targeting processes. One implementer described working with village leaders to set up accountability committees made up of community members identified by the community to help oversee the implementation. The Nutrition Cluster is not involved in targeting beneficiaries, but the cluster may observe targeting when they are monitoring the programs.

In terms of exit criteria, the only guidance document we reviewed that included guidance on this point was the MAM Decision Tool, which states that any children enrolled in BSFP should remain in the program regardless of their age. Therefore, if a child is enrolled at 23 months and turns 2 years old during the BSFP implementation period, the child should be kept in the program even though they now exceed the target age range. Key informants did not mention procedures for discharging or retaining children based on age or women based on pregnancy or lactation status, so it is not clear if any exit criteria for BSFP beneficiaries are being used in the DRC.

Table 6. Beneficiary Targeting Criteria

Global Guidance			DRC Guidance	
WFP Handbook	**MAM Decision Tool**	***Sphere Handbook***	**National IMAM Protocol**	**Integrated Manual**
• Default target group is children aged 6-23 months. • When food insecurity is extremely severe or when coverage and quality of the MAM treatment is compromised, the age group can be extended to 6-59 months. • Where prevalence of low birthweight or prevalence of acute malnutrition among women of reproductive age is high, PLW should also be targeted.	• Children 6-23 months should be prioritized if there are resource constraints. • Children 6-59 months of age can be included in BSFP if MAM and/or SAM treatment activities are not available or coverage of these programs is low (i.e., < 20 percent). • Considerations for inclusion of PLW include: — low birthweight rates — capacity and resources — impact the crisis has had on IYCF-E behaviors — availability of MAM treatment for PLW in the area.	• Not specified. Recommends following national and international guidance.	• Children 6-23 months with MUAC ≥125 mm and the absence of nutritional edema • PLW with a baby less than 6 months of age	• Children 6-23 months only: — Measles epidemic • Children 6-23 months and PLW: — In cases of food insecurity (IPC 3 or greater) — Nutrition emergency (GAM ≥ 10 percent or SAM ≥ 2 percent) — Cholera epidemic — Population movement (at least 1,250 people). • BSFP is also proposed in cases of natural disasters but the target population is not specified.

Design Challenges

The Nutrition Cluster, WFP, and HRP prioritization and beneficiary targeting do not aim to cover100 percent of the population in need, largely due to resource constraints. However, key informants said that, in principle, WFP aims for100 percent coverage of a selected zone even though this is not always possible. Informants reported lower levels of coverage are due to insufficient funding to cover the eligible population or because some communities are inaccessible due to poor transportation infrastructure or conflict and insecurity. In some cases, certain health areas within the health zone may be excluded if there is sufficient food access in the area or low rates of disease or malnutrition. When partners can access communities but cannot afford to provide BSFP to the full eligible population, partners prioritize the most at-risk children and target those with MUAC between 125 and 130 mm, as these children are the most at risk of becoming moderately wasted. WFP recognized that the actual number of children in targeted health zones is often higher than they plan for due to outdated population figures. In general, it seems that when key informants speak about coverage for BSFP, they speak in terms of the number of people in need rather than geographic coverage of the intervention.

A few informants said that there can be quality issues with the screening that is used for targeting, as the relais communautaires may not be well trained in using MUAC and may make errors. An informant explained that small quality issues can result in children being incorrectly classified as moderately or severely wasted or not. A few implementing partners also noted that the targeting process can cause community tension so they have to manage those issues when they arise. In addition, an informant explained that community members do not necessarily know the difference between distributions for general food assistance, wasting prevention, and moderate wasting treatment, which can cause confusion.

Learning Question 2: BSFP Implementation in the DRC Compared to Global Guidelines

Summary of Findings: Learning Question 2

BSFP distribution is planned for during the lean seasons, which according to available data from FEWSNET are typically from October to December in the northeast, October to January in the east-central, and January to April in the southeast (FEWSNET 2023). WFP supplies implementing partners with SNF, which the implementing partners distribute on a monthly basis. They coordinate with health centers to distribute MQ-LNS (e.g., Plumpy'Doz) to children 6–23 months and fortified blended flour (e.g., Super Cereal), oil, and sugar to PLW. Children's anthropometric status is checked at distributions. To monitor BSFP, implementing partners primarily monitor coverage, adherence, and caseloads and WFP assesses dietary indicators through baseline and post-distribution monitoring surveys. However, several implementing partners noted that they do not know the true impact of BSFP and cannot prove its effectiveness because there are no impact evaluations done. As part of BSFP, implementing partners most commonly provided social and behavior change [SBC] interventions on nutritious foods and IYCF. Typically moderate wasting treatment is provided in the same health zones as BSFP and some areas have other health and development programs. Informants reported interrelated challenges, primarily related to funding (including insufficient funding and short funding cycles), supply chains, transportation, security, monitoring, and data.

Contracting and Partner Selection

In the DRC, WFP largely directs the design and planning process for BSFP when contracting local or international NGOs as implementing partners. Annually toward the end of the year, WFP uses a competitive process to solicit proposals to provide wasting treatment and prevention activities. These one-year field-level agreements include a predefined list of health zones to be targeted. BSFP is included in these agreements, based on the geographic targeting for that year. An implementing partner

informant noted that these solicitations typically are posted in October or November each year. WFP provides narrative and budget templates to assist partners with completing the required concept notes and indicates to partners which health zones are prioritized by the Nutrition Cluster. Implementing partners cited as challenges the short turnaround time of 1 week to submit concept notes and the need to redo the contracting process each year. Typically implementing partners said that they are not directly involved in the design of BSFP as those decisions are made prior to the contracting process.

> "We … are not directly involved in the design of the BSFP activity. Because WFP comes with the proposal, they tell you: 'We are going to work on a proposal with such and such health zones. We have this or that planned as an activity.'" (Implementing partner, National level)

After receiving proposals, a key informant from WFP explained that WFP signs 12-month contracts with the selected implementing partners. For contracts that include BSFP, they are always inclusive of moderate wasting treatment. According to implementing partner informants, prior to 2022, some agreements signed with WFP only lasted for 6 months, rather than 12 months. However, it seems that as of 2022 the contract period has been increased to 12 months. The WFP informant further explained that of this 12-month period, BSFP activities take place for 4-month periods that coincide with the lean seasons. The informant mentioned of these 4-month periods, the first month is used for screening and enrollment, followed by three monthly distributions of SNF. Implementing partners typically are a mix of international and local NGOs. However, the contracting process can take time and can cause delays of a few weeks in implementation according to implementing partner informants. Once WFP signs the agreement, WFP works with the implementing partner to develop an activity plan. WFP provides more detailed guidance on implementation to the partner as part of this planning process.

Implementing partners reported that the turnaround time for contract proposals was very short—around 1 week—and that the timing of the proposal process at the end of the year during the holiday period was a challenge. However, partners also reported that the delay in issuing contracts, which are supposed to start from January, had been reduced in 2022 compared to previous years. One partner informant mentioned that previously it could take up to 2 months for contracts to be awarded and signed, resulting in implementation delays.

While implementing partners reported receiving some type of guidance or recommendations from WFP on how to design and implement BSFP, the reported format and depth varied. Even within the same organization, some individuals reported receiving different levels of training. Some implementing partners said that they did not receive specific training on BSFP but that they are provided more basic briefings or orientation on BSFP from WFP. Others reported that they received a 3-day training from WFP. One reported learning about BSFP through meetings organized by the Nutrition Cluster. A few said they received guidance documents and one reported receiving online guidance from WFP. In its 2022 annual report for DRC, WFP reports having provided 18 training sessions or workshops as part of its wasting prevention activities; however, specifics of the topics covered are not included in the report. A total of 51 individuals benefited from technical assistance and/or training during this period (WFP 2022b). The variation in training support received by partners from WFP is shown below:[3]

> "We have not really received any specific training from WFP on the implementation of the BSFP, but at least we got a briefing. WFP comes, tries to build the capacity of our staff, and we at our level try to look at some documents related to this activity. How we can build the capacity of our staff and providers, as well as various local authorities, but not a training in a particular way to say: 'This is a BSFP training.' That we never got. At least we got the briefing from WFP on these kinds of activities." (Implementing partner, National level)

3 From the interviews, it was not clear why there was such variation in reporting on training (i.e., whether this variation reflected changes in training over time, differences across provinces or organizations, or inconsistencies).

> "WFP is able to provide guidance or refer us to online guidance that they have on any nutrition activities that we are designing here in DRC, and also some learnings that they've done previously in DRC so that it informs how we design our next projects." (Implementing partner, National level)

> "During 3 days we benefited from a training on blanket feeding." (Implementing partner, National level)

A few implementing partners discussed providing training to their staff on BSFP, which one organization invites WFP to participate in. PRONANUT also reported providing training prior to implementation, however this training was not reported by implementing partners.

Program Timing, Duration, and Rations

Global guidance on the timing of BSFP is not clearly defined. In the DRC, the guidance included in the national IMAM protocol that states that BSFP should be provided for 4 months during the lean season is what is followed by WFP and implementing partners. The proposed 4-month duration of BSFP falls within the suggested duration of 3 to 6 months suggested by global guidance documents. In terms of ration type and size, global and DRC-specific guidance is consistent in terms of the provision of MQ-LNS, such as RUSF, to children 6-23 months but there is some variation in the type and amount of product to be provided to PLW. Information on program timing, duration, and rations is summarized in table 7.

Table 7. Implementation—Global Guidance

Program Element	Global Guidance			DRC Guidance	
	WFP Handbook	MAM Decision Tool	*Sphere Handbook*	National IMAM Protocol	Integrated Manual
Timing of intervention	For a predefined period	As early on in the crisis as possible Based on seasonal food insecurity or epidemic patterns of infectious diseases When an emergency further aggravates the typical lean season, BSFP should start 1 month before the typical lean season and continue to post-harvest.	Guidance on timing is not specified.	During lean season	Guidance on timing is not specified.
Duration	Minimum 3 months, maximum of 6 months, based on contextual considerations In areas of protracted crises where populations rely entirely on humanitarian assistance, intervention may exceed 6 months.	Typically 3-6 months, depending on the scale and severity of the emergency	Guidance on duration is not specified.	4 months	Duration guidance varies. BSFP is sometimes included under interventions lasting 6 months, 12 months, or 6-12 months. In other instances, no

Program Element	Global Guidance			DRC Guidance	
	WFP Handbook	**MAM Decision Tool**	***Sphere Handbook***	**National IMAM Protocol**	**Integrated Manual**
					timeframe is given.
Products and ration sizes	MQ-LNS • Primarily for children 6-23 months, can be given to children up to 59 months; • 1 50-gram (g) sachet/day Super Cereal Plus • Primarily for children 6-23 months, can be given to children up to 59 months; • 100 g/day or 200 g/day for provision of sharing Super Cereal • Children above 5 years; PLW • up to 200 g/day, includes provision for sharing Can also be given to children above 36 months if other SNF is not available	MQ-LNS • Children 6-23 months or 6-36 months • 1 50-g sachet/day • Super Cereal Plus • Children 6-23 months or 6-59 months • 200 g/day (considerations for sharing not mentioned) • Super Cereal with oil and sugar • PLW • 200 g/day (considerations for sharing not mentioned; ratios of sugar and oil to be added not mentioned) A household's ability to cook should also be a factor in determining what product to provide. If cooking facilities are not available or there is a lack of access to fuel or potable water, then only ready-to-use products should be provided.	Product and ration guidance is not specified.	Products and ration size Plumpy'doz (MQ-LNS) • Children 6-23 months • 47 g/day (3 teaspoons); 1 325 g pot per week • Super Cereal Plus (Super Cereal sucré) with fortified oil • PLW • 250 g Super Cereal, 25 g oil per day	Product and ration guidance is not specified.

According to key informants, once the beneficiary targeting is complete, WFP-funded implementing partners aim to distribute the SNF on a monthly basis during 3-month periods that correspond with geographically specific lean seasons. Precise dates for the lean seasons were not provided by key informants but according to available data from FEWSNET, they typically take place from October to December in the northeast, October to January in the east-central, and January to April in the southeast (FEWSNET 2023). WFP supplies the implementing partners with the SNF to distribute on a monthly basis. The implementing partners consistently reported providing children with 30 Plumpy'Doz packets per month. Plumpy'Doz is a MQ-LNS and considered an RUSF (which is different than the RUSF used for treatment of moderate wasting [Plumpy'Sup] which is a high-quantity lipid-based nutrient supplement [LNS]). Information provided by key informants on the products provided to PLW was less clear. According to WFP, Super Cereal is the most common product that is provided to PLW; however, there was a clear preference for Super Cereal Plus over Super Cereal as it was perceived to be more effective. Implementing partner informants, however, often stated that they provide corn-soy blend (CSB) to PLW as part of BSFP. It seems that informants were using the term CSB to refer to any type of fortified flour product, as CSB is not being provided to partners for distribution in the DRC. CSB Plus(+) is used for treatment of moderate wasting through targeted supplementary feeding programs but not as part of BSFP. PLW receive fortified blended flour, typically Super Cereal, oil, and sugar. A monthly supply of BSFP products for PLW is 7.5 kilograms of fortified flour blends, 750 g of oil and 600 g of sugar (when available). The sugar either comes premixed in with the flour blend (e.g., if Super Cereal Plus is given) or implementing partners provide the sugar separately when it does not come already mixed with the flour blend (e.g., if Super Cereal is given, which WFP informants stated is the more common product).

The implementing partners coordinate with the health zone to develop distribution plans which they validate with WFP. Typically, each month, WFP directly transports the SNF from its warehouses to the health zones. In the health zone, the implementing partner stores the SNF in warehouses rented by WFP or at health centers. However, if a health zone or health center is not accessible, WFP provides additional funds to the implementing partner who then arranges transportation for the SNF to the hard-to-reach areas. Distributions then happen over 1 to 3 days in a month. They usually take place at health centers as there are few suitable venues in communities that are large enough to distribute the SNF. The implementing partners also involve health providers, village leaders, and the CODESA in the distributions. An implementing partner explained the distribution process:

> "At the health zone level, [WFP has] to make sure that the inputs have arrived and are well preserved. WFP informs us: 'The vehicle leaves on such and such a day, at the latest, they will already be in the zone.' We alert our teams who alert the providers. The providers also alert the CODESA, [who are] the community members who are involved in the management of inputs. As soon as the vehicles arrive, we come to unload, we keep the inputs in the warehouses where the WFP has financed the pallets and it also pays the rent of these warehouses." (Implementing partner, National level)

The health workers who work with implementing partners to distribute SNF are supposed to report the information about the distributions to the health zone level. Multiple stakeholders are involved in overseeing BSFP implementation, including WFP, the Nutrition Cluster, PRONANUT, and health zone officials. On a quarterly basis, WFP, the Nutrition Cluster, PRONANUT, and health zone officials conduct joint supervision missions.

Monitoring

None of the global guidance documents that we reviewed provided specific guidance on BSFP monitoring. Although WFP includes monitoring guidance for other interventions detailed in the *Food and Nutrition Handbook*, this information is not provided for BSFP. The handbook refers to WFP's Nutrition Monitoring and Evaluation Guidance for further information but this document is not publicly available.

The *Sphere Handbook* notes that impact indicators for BSFP have not been defined but states that it is "important to monitor coverage, adherence, acceptability and rations provided."

The Global Nutrition Cluster (GNC) reports on a country-by-country basis how many children 6-23 months and PLW are in need of, targeted for, and reached with BSFP. Table 8 summarizes key indicators on BSFP for the DRC, taken from the 2022 GNC Annual Report. According to this data, the number of identified people in need has increased from 2021 to 2022. However, the percentage of people in need that are targeted and reached has decreased (GNC 2023).

Table 8. BSFP Statistics for the DRC

Indicator	2021	2022
Total number of people in need of BSFP	Children 6-23 months: 195,000 PLW: 459,000 Total: 654,000	Children 6-23 months: 712,000 PLW: 1,376,000 Total: 2,088,000
Percentage of people in need targeted	Children 6-23 months: 80 percent PLW: 50 percent Total: 59 percent	Children 6-23 months: 49 percent PLW: 22 percent Total: 31 percent
Percentage of targeted reached	Children 6-23m: 214 percent PLW: 99 percent Total: 146 percent	Children 6-23 months: 115 percent PLW: 55 percent Total: 87 percent

Source: *Global Nutrition Cluster Annual Report, 2022*

WFP requires monitoring of consistent corporate (WFP-wide) indicators for all of its programs. An informant explained the four main indicators that WFP uses to monitor BSFP—coverage, adherence, minimum dietary diversity for women, and minimum acceptable diet. The first two indicators come from program data. Coverage is the percentage of children and PLW who qualify and are admitted to the program. Adherence is the percentage of the three distributions beneficiaries attend. WFP conducts baseline surveys and post-distribution monitoring surveys in intervention areas to assess minimum dietary diversity for women and minimum acceptable diet. WFP uses the data on these two dietary intake indicators to assess the impact of the program. Although implementing partners track child wasting caseloads, WFP does not use wasting caseload as an outcome indicator because BSFP is only a 3-month program and it would be difficult to attribute any change in child nutritional status to the program. We did not have access to WFP monitoring and evaluation (M&E) data on BSFP. WFP reports on its performance through annual reports at both the global and country level. However, the information reported in these documents is not disaggregated down to the intervention level. For example, WFP reports broadly on its moderate wasting treatment and prevention efforts. In annual reporting, the specific interventions included under prevention are not clearly defined. In WFP's DRC annual report, interventions for the prevention and treatment of moderate wasting are combined and the specific prevention interventions are not clearly defined (WFP 2022b). Although some data on specific interventions, such as school feeding, moderate wasting treatment, and general food assistance, are provided, there are no data specific on BSFP in WFP's reporting (WFP 2022a). Output data related to wasting prevention activities from the 2022 DRC annual report is presented in table 9. WFP also reports on outcome indicators, which for its wasting prevention activities include the proportion of children 6-23 months of age who receive a minimum acceptable diet, Minimum Dietary Diversity –

Women, and the proportion of target population - disaggregated by PLW and children 6-23 months - that participates in an adequate number of distributions (adherence). In the DRC, these outcome indicators are reported according to province, not in aggregate, and therefore are not summarized in this report.

Table 9. WFP 2022 Annual Performance Output Indicators for 2022; Activity 3: Prevent Acute Malnutrition among Conflict- and Crisis-Affected Populations in the DRC

Indicator	Planned	Actual
Beneficiaries receiving food transfers—children	442,669	503,606
Beneficiaries receiving food transfers—PLW	318,476	194,988
Food transfers (metric tons [MT])	20,811	5,722
Number of health centers/sites assisted	664	867
Number of rations provided	140,606,280	57,354,494
Quantity of fortified food provided (MT)	3,116.72	328.95
Quantity of specialized nutritious foods provided (MT)	8,796.55	5,375.21

Source: WFP 2022b

At the distributions, implementing partners take MUAC measurements to monitor the number of wasting cases in the community. If a child becomes wasted and is referred to treatment, then partners replace that child by enrolling a new non-wasted child in BSFP. Once the child has recovered he or she should be able to continue in BSFP. While implementing partners discussed the importance of having continuity of care, they did not mention whether they track children who develop wasting to systematically re-enroll them in BSFP once they are discharged from treatment. In cases where inputs are in short supply and enrollment targets have already been met, new cases might not always be added. However, if targets are not yet met and supplies are available, additional women and children will continue to be enrolled as product availability allows. The implementing partners do not conduct surveys or impact evaluations of BSFP, so monitoring caseloads is the primary way they monitor the effectiveness of the program. An implementing partner explained:

> "Because there is no survey … we try to evaluate the number of [wasting] cases admitted [to treatment programs]. For example, if we started with 100 [wasted children in treatment] at the beginning of the year, at the beginning of the implementation of the project, and in the last 3 or 4 months, we feel that the curve is going down, this reassures us that, surely, there has been an impact through the reduction of admissions to the [treatment] program. That's the only way we can assess that." (Implementing partner, National level)

Informants in the DRC consistently reported that they thought BSFP helped prevent wasting in communities where it is implemented based on caseload monitoring. For example,

> "In the area where you implement the BSF[P] approach, you will see that when the distributions start, there are fewer admissions in the regular programs. Every month, when the beneficiary arrives, I told you that we do the anthropometric evaluation [MUAC], you see that there is a positive evolution, a good evolution of the anthropometric parameters of the children and PLW who are under the program." (Implementing partner, National level)

PRONANUT informants stated that they ask implementing partners directly for monitoring data, which includes information on the number of children 6–23 months and PLW admitted to BSFP. PRONANUT then shares these data with health zones and WFP. PRONANUT also monitors how data are collected and analyzed when it carries out supervision missions. The number of children 6–23 months and PLW reached with BSFP are reported as part of HRP reporting.

Complementary Interventions

Global guidance on complementary activities to be implemented alongside BSFP is vague. Generally, global guidance suggests that a range of multi-sectoral interventions should be provided in addition to BSFP, including health services, WASH, other food security activities, and promotion of IYCF practices. However, guidance is even less clear on who should take responsibility for providing these additional interventions. In the DRC, there is no defined minimum package of interventions to be implemented alongside BSFP. Available guidance on complementary interventions is summarized in table 10.

Table 10. Guidance on Complementary Activities

Global Guidance			DRC Guidance	
WFP Handbook	**MAM Decision Tool**	***Sphere Handbook***	**National IMAM Protocol**	**Integrated Manual**
Regular anthropometric and edema screening to identify those who are sick, malnourished, or in need of further assistance/referral. Guidance also states that WFP will collaborate with UN agencies and NGO partners to ensure that the basic and underlying determinants of undernutrition are addressed, including improvements in care practices, access to health services, food security, and WASH. However, the guidance does not state whether WFP will directly implement these activities if they are not already available in the targeted area. Guidance also mentions that BSFP may be delivered via general food assistance mechanisms if	A specific package of complementary interventions is not defined. Guidance states that general food distributions should meet the requirements of household members not targeted for BSFP. BSFP is described as "the backbone" for an emergency response that can be used to deliver other interventions including: community mobilization, participation and sensitization for accessing the target population through a census registration, community screening, referral for the management of SAM and MAM as well as for adding child survival interventions such as deworming, vitamin A supplementation, immunization and/or	States that supplementary feeding programs should be multi-sectoral with complementary services including: WASH, health, IYCF, and general food distributions. Guidance also notes that links with inpatient and outpatient therapeutic care, antenatal care, malaria prevention, childhood illness and screening, HIV and tuberculosis care, and food security programs including food, cash or voucher transfers should be maintained.	No guidance on what other activities should be implemented alongside BSFP. Other wasting prevention activities included in the guidelines are: • IYCF promotion — promotion of optimal breastfeeding — promotion of adequate complementary nutrition based on local foods available in households (including the distribution of micronutrient powder) — promotion of women's nutrition — promotion of nutrition for sick children • Promotion of other essential family practices: — promotion of handwashing with soap/ash	No specific guidance on what other activities should be implemented alongside BSFP. For each type of emergency, a range of proposed health, nutrition, WASH, and food security activities are proposed but a minimum package is not clearly defined.

Global Guidance			DRC Guidance	
WFP Handbook	**MAM Decision Tool**	***Sphere Handbook***	**National IMAM Protocol**	**Integrated Manual**
implementing partner capacity is limited. It also notes that BSFP is part of a broader range of nutrition-specific and nutrition-sensitive interventions but a specific package is not defined. In cases where targeted supplemental feeding programs are implemented alongside BSFP, guidance mentions that a referral mechanism should be in place. Guidance also notes that implementing BSFP alongside food assistance-for-assets programs, general food assistance, or other in-kind or cash assistance programs may have synergistic effects in reducing wasting and morbidity.	measles vaccination campaigns.		— use of long-lasting insecticide-treated mosquito nets — use of oral rehydration solution/zinc in case of diarrhea — use of hygienic latrines — consumption of potable water/ treatment of water at home — use of health services in case of danger — vaccination — family planning — improved food production — food fortification	

Informants generally saw the value in providing complementary interventions as part of BSFP. A few global-level informants discussed the general importance of using BSFP as a platform for delivering these other nutrition and health interventions. Several informants thought BSFP should include a more comprehensive set of interventions to help prevent wasting and wasting relapse and to build resilience. For example:

> "One thing that limits is the lack of integration of our BSFP activities, to some recovery activities that will allow communities to continue to be resilient to shocks and not relapse back to moderate acute malnutrition for the under-fives and the pregnant and lactating women." (Implementing partner, National level)

> "I talked about quite a number of relapses. Discharge, relapse back. Admitted, discharge, relapse. For me, I think there should be deliberate efforts for integration of nutrition activities or BSFP activities with other sectors, so that we are able to holistically manage malnutrition. We know malnutrition has got lots of factors and underlying issues that need to be addressed. For me, it's about that integration from different sectors for that kind of holistic approach to be able to manage malnutrition in DRC." (Implementing partner, National level)

UN, bilateral donors, and implementing partner informants typically saw BSFP as part of a package of interventions that should be and is provided in the same communities that receive MAM and SAM treatment interventions:

> "It often comes with treatment, so where we have treatment and prevention, it comes as a package." (UN-affiliated, Global level)

> "'What's the package that's there?' We have the SAM treatment, we have the MAM treatment, we have the BSFP on children, we have the BSFP for women, because it was in an area where the resilience project, there was UNICEF and WFP, they have that whole package. Even though it was an area where you have the displaced, they had access to the whole package. Just to say that this complete package is important, because the food that people consume is quite poor in micronutrients." (UN-affiliated, National level)

As part of BSFP, implementing partners informed us that they delivered SBC interventions on nutrition, including interventions on IYCF. Cooking demonstrations using locally available, nutritious foods were the most common SBC intervention reported by implementing partners. An implementing partner noted that it receives funding for cooking demonstrations from both UNICEF and WFP, and between funding from the two, it is able to cover the areas where they implement BSFP with these types of SBC activities. In addition, a UN-affiliated informant said that implementing partners work through mother-to-mother support groups in communities where such groups already exist to help deliver messages on breastfeeding and complementary feeding and to help women learn from each other. One informant also reported that it delivers SBC communication (SBCC) messages through the radio. Informants did not provide many details about what these interventions involved or the key messages delivered. An example of a message delivered is to consume a "five-star meal" which is a balanced meal and the partner will explain what types of nutritious foods to consume and make available in the home. However, key informants who mentioned conducting cooking demonstrations and nutrition education on cooking more nutritious meals did not discuss whether households in food-insecure contexts were able to put this knowledge into practice. Additional support, such as general food distributions, cash or voucher programs, were not mentioned as ways to help households access the foods needed to improve their diets. Despite some of these potential shortcomings, a UN-affiliated informant noted that there were greater improvements in dietary indicators in 2022 than in previous years, perhaps due to the increased emphasis on behavior change.

While SBC on IYCF was commonly reported by implementing partners, breastfeeding and demonstration plots for vegetable gardening located at the health facilities were reported by one

implementing partner each.[4] One implementing partner reported that mothers receiving BSFP also receive a breastfeeding assessment and counseling from health workers. Another partner said that their organization supports households to start vegetable gardens to improve household food security. Complementary health interventions, such as immunization or deworming, were not reported by the key informants we spoke to. It is possible that different implementing partners are providing complementary health interventions in the same areas where BSFP is being implemented. However, we did not speak to non-BSFP partners to confirm the types of services that they are supporting. Some information on routine health service delivery is available through the DHIS2 but there is no way to confirm if these services are reaching the same populations targeted for BSFP. In addition, most data reported in the DHIS2 come from facility-based activities. Therefore, complementary health services provided by implementing partners alongside BSFP distributions may not be captured in this system.

Informants in the DRC largely said that BSFP was provided as a prevention activity in the same areas where treatment interventions were also provided. This is because the field-level agreements with partners are inclusive of both treatment and prevention activities. A UN-affiliated informant explained that in some circumstances treatment activities are excluded from these agreements, but only if there is a separately funded treatment program operating the same geographic area. However, an informant in the DRC noted that sometimes only prevention activities are implemented if there is not capacity for large-scale treatment. In reviewing Nutrition Cluster mapping data for our selected health zones from June 2022 to February 2023 (which was incomplete for some periods), we did find that for periods when BSFP was indicated as active within a given health zone that it was accompanied by either just moderate wasting treatment or both severe and moderate wasting treatment. The Nutrition Cluster also reports on the continuum of care for severe and moderate wasting treatment: figures from October 2023 show that 40 percent of targeted health zones offer both services. However, based on the format of the data, we were unable to verify how many of these health zones also had BSFP (RDC Nutrition Cluster 2023). In all instances, BSFP and moderate wasting treatment were supported by the same implementing partner.

At the headquarters level, UN-affiliated informants noted that general food assistance or cash is often provided in the same communities that receive BSFP:

> "[BSFP is] often given in addition to general food assistance, because we are talking about highly food-insecure contexts where households are also in need of food assistance." (UN-affiliated, Global level)

> "We are even starting internally to really foster this minimum package … having the nutrition food aspect, cash aspect." (UN-affiliated, Global level)

However, it was not clear from interviews how commonly the same communities receiving BSFP are provided with general food assistance in the DRC. The Nutrition Cluster does not include general food assistance in its mapping, as this intervention is tracked by the Food Security Cluster. The Nutrition Cluster maps activities using an Excel spreadsheet that includes lists of specific health zones where activities such as BSFP are being implemented. However, the Food Security Cluster reports on its activities using shaded maps without the geographic areas being listed or labeled. We tried to cross-reference data from the two Clusters to determine which health zones that were selected for BSFP activities in January 2023 also had general food assistance activities between January and March of the same year. This analysis was imperfect but we estimate that of the 38 health zones with BSFP, 14 (37 percent) also had general food assistance programs. However, we do not have information about the

[4] Vegetable gardening was not part of BHA-funded activities.

exact implementation period of BSFP during this timeframe. Regardless, it does not seem that BSFP is systematically being implemented alongside general food assistance activities.

A few implementing partners noted that other development projects are also implemented in some of the same communities that receive BSFP, which is beneficial. These other projects are implemented by them or other NGOs and are funded by other donors such as the United Nations High Commissioner for Refugees. The focus of the projects vary and include infectious disease, gender-based violence, and education. We did not specifically ask about how these projects coordinate or collaborate with each other, but in another USAID Advancing Nutrition report, we identified challenges to coordination and collaboration among wasting prevention and treatment actors more broadly. BSFP was not looked at closely in this document (USAID Advancing Nutrition 2022b).

Implementation Challenges

While informants did not note significant challenges with targeting, they described several challenges during implementation. The primary challenges reported were related to funding and supply chain issues. Additional common challenges related to transportation, security, and monitoring and data. Several of these challenges are interrelated. Other challenges raised less frequently included limited human resources in the health system and household sharing of SNF.

Funding challenges were commonly reported, but the types of funding challenges differed by informant group. WFP country offices have to fundraise themselves and the DRC has few sources of funding for BSFP, as discussed further in learning question 6. Then, according to informants, the funding is provided only for a short period and this cycle repeats itself each year. However, the 2023 DRC HRP covers 2 years, in an effort to improve the humanitarian sector's ability to coordinate with development actions and, presumably, tackle some of these short-term funding challenges (OCHA 2023c). As noted previously, WFP does not necessarily have enough funds to cover all prioritized health zones in a given year or the number of eligible children and PLW living in those areas. Government stakeholders emphasized the need for increased funding for BSFP given the perceived critical benefits it has in reducing wasting. Implementing partners do not always receive enough funding to cover the full eligible population in the health zones they are contracted to deliver in, because the targets set are often too low (see data constraints below). In addition, implementing partners receive funding in short, 6- to 12-month cycles. They reported it was difficult to receive funding for such short cycles from an administrative and operational perspective. Further, having sufficient funding to pay for personnel is a constraint as distributing BSFP is labor-intensive. Implementing partners incur additional costs to hire staff to support health workers to distribute BSFP as many health centers only have a few staff. Implementing partners also noted that it is difficult to get sufficient support from the relais communitaries because these volunteers receive only a small incentive and are not paid staff.

Informants consistently identified challenges related to the supply of SNF. These challenges were identified across the supply chain. There is no local production capacity in the DRC. Therefore, WFP procures the SNF abroad for distribution. For BHA-funded SNF, which is the majority of BSFP in the DRC, the supply generally comes from the United States which takes significant amounts of time and makes planning challenging, as explained by one informant. According to the informant, lead times for BSFP products are even worse than for ready-to-use therapeutic food, which typically takes 6 months to arrive when purchased abroad (USAID Advancing Nutrition 2023).

> "The lead time, that is to say the products that we have to distribute to get from the United States to here, the analysis that we did, it took between 8 months and 10 months. That's why it's been a big challenge for us in terms of planning" (UN-affiliated, National level)

Transportation challenges, conflict, and insecurity make travel and transporting supplies a challenge. Transportation is difficult due to poor road and bridge infrastructure, implementing partners' insufficient access to working vehicles, the cost to rent vehicles when needed, and security

concerns. Although transportation was consistently identified as a challenge, security was identified as a more significant constraint in certain areas such as Tanganyika. Both challenges restrict, delay, or entirely block access to specific communities. The risk of supplies being looted and the risk to the safety of staff and beneficiaries is also higher in insecure areas, according to informants.

> "The logistical challenges are enormous here … the problems of the road infrastructure in the country, it is very extremely poor. During times of rain, it's even worse." (UN-affiliated, National level)

> "However, insecurity limits us taking [supplies] to a few health areas … Because there was a problem of accessibility, there was also a problem of insecurity. We said to ourselves that if we brought the inputs, there was a risk of being looted, and there was also a risk that the beneficiaries would be attacked in order to take away or recover the inputs." (Implementing partner, National level)

The various supply issues can cause delays in distribution, so implementing partners sometimes distribute the SNF late (e.g., undertake a second or third distribution after 40 days instead of after 30 days) or rush distribution. Once the supply reaches the health zones, implementing partners reported that it can be difficult to find warehouse or other storage space for the SNF. An informant noted that there is also the small risk that small portions of the supply, such as two to five bags at a time, are taken by transporters or handlers. To help mitigate potential fraud, WFP and its partners work closely with CODESA to jointly manage the SNF. WFP also has hotlines where suspected fraud can be reported. It works with the General Health Inspectorate (*Inspection Générale de la Santé*) to investigate suspected cases. According to WFP, partners should report discrepancies or shortfalls in the amount of product received and are asked to replace stock losses.

Limited monitoring and evaluation and insufficient access to data and were identified as challenges across informant groups. A challenge noted by the government is that BSFP is not a part of the DHIS2 reporting tools and there are no indicators specific to BSFP. UN-affiliated informants identified a lack of information-sharing as the main collaboration challenge between WFP and the Nutrition Cluster. An informant specified that the government only receive data on BSFP from WFP on a quarterly basis, and that this is too infrequent. WFP also does not directly provide the Nutrition Cluster with data on BSFP, so the Nutrition Cluster requests these data directly from the implementing partners, which doubles the reporting burden. Stakeholders, including the Nutrition Cluster and WFP, do not have access to routine nutrition surveillance data beyond wasting caseloads. Available survey data, such as the Multiple Indicator Cluster Survey, are outdated and few SMART surveys are done each year due to funding constraints (USAID Advancing Nutrition 2023). Related to this lack of updated and routine data is the challenge of setting accurate targets. Partners have noted that WFP sets BSFP targets in advance but when the partner arrives to implement the program, they often find more eligible individuals than were targeted, which can cause challenges. Several implementing partners noted that they do not know the true impact of BSFP and cannot prove its effectiveness because there are no impact evaluations done. An implementing partner also noted that the monitoring data they collect as a program sometimes has quality issues.

Learning Question 3: BSFP Phaseout in the DRC

Summary of Findings: Learning Question 3

BSFP planning is done on an annual cycle; whether a health zone has previously received BSFP does not appear to be a consideration. Some health zones are targeted for multiple years in a row for BSFP while others are not. Informants provided few examples of phasing out BSFP and instead emphasized the need to continue and expand coverage of BSFP.

None of the guidance documents we reviewed provided specific guidance related to the phaseout, or ending, of BSFP in an intervention area. Both the WFP *Food and Nutrition Handbook* and the MAM Decision Tool emphasize the need for regular monitoring of the situation in the implementation area to determine whether the program duration should be extended, reoriented, or scaled down. A UN-affiliated informant explained that phaseout happens as part of the annual prioritization exercise. If a health zone no longer meets geographic targeting criteria then the program ends in that zone. However, details on how the phaseout is communicated to communities were not shared by informants. According to the limited guidance on timing and duration of BSFP provided in the DRC national IMAM protocol, BSFP should only be implemented for a 4-month period during lean season. However, informants did not seem to characterize these two distribution periods as having distinct phaseout periods after the 4-month intervention came to an end.

The health zone prioritization exercise completed each year as part of the HRP development helps to determine where BSFP will be implemented. Informants noted that BSFP is a short-duration program and it is the prioritization and need that determines whether BSFP will continue in a health zone in a subsequent year, not whether it has been implemented previously in a health zone. However, BSFP may be implemented during the annual lean seasons over the course of 2 to 3 years in the same health zone. A UN-affiliated staff explained:

> "When we talk about the phaseout of an activity, of a place … every year we discuss with the clusters and PRONANUT to identify the areas that are priorities … sometimes there are areas that are still in the priority area, in this case, we can continue in the second year in these areas, but normally, once we are there, we do the implementation for 1 year and then we change." (UN-affiliated, National level)

Others noted that BSFP may be stopped in an area due to insecurity or inaccessibility.

Using Nutrition Cluster mapping data, we reviewed the health zones targeted for BSFP in September 2022 and January 2023. Overall the number of targeted provinces and the number of health zones within those provinces increased in January 2023, with the exception of Sud Kivu (table 11). For health zones where BSFP programming continued for both periods, the same implementing partner was used. We also looked at IPC projections for both food insecurity and acute malnutrition and found that all but 3 of the health zones (all in Sud Kivu) selected for BSFP in 2022 met at least IPC food security criteria for inclusion.[5] When we compared the 2023 projected IPC status for the 2022 health zones we found that the three that had not met IPC criteria in 2022 were not included in the 2023 selection. However, other health zones that still met the IPC criteria in 2023 were also excluded from the 2023 selection. Key informants from WFP noted that they faced greater resource constraints for BSFP programming in 2023, which may have contributed to the deprioritization of some health zones, but the rationale for the phasing out of BSFP in health zones that still met the targeting criteria was not made clear in the interviews.

[5] Information for Tshishimbi in Sud Kivu could not be found.

Table 11. Changes and Continuity in Geographic Targeting for BSFP, 2022-2023

Provinces	Health Zones Targeted in 2022[6]	Health Zones Targeted in 2023[7]	Health Zones Targeted in both 2022 and 2023
Ituri	Angumu	Aungba	Gethy
	Gethy	Biringi	
	Komanda	Bunia	
	Lita	Gethy	
		Lolwa	
Kasaï	Kalonda Ouest	Kalonda Ouest	Kalonda Ouest Kamwesha Mutena
	Kamwesha	Kamonia	
	Mutena	Kamwesha	
		Kitangua	
		Mutena	
		Ndjoko Punda	
		Nyanga	
Kasaï Central	Bukonde	Bena Leka	Demba Dibaya Katende Muetshi
	Demba	Bena Tshiadi	
	Dibaya	Demba	
	Katende	Dibaya	
	Muetshi	Katende	
	Tshikula	Lubunga	
		Mutoto	
		Muetshi	
		Ndekesha	
Kasaï Oriental	Cilundu	Cilundu	Cilundu Lukelenge Miabi Mukumbi Nzaba Tshitenge
	Lukelenge	Lukelenge	
	Miabi	Miabi	
	Mukumbi	Mukumbi	
	Nzaba	Nzaba	
	Tshitenge	Tshishimbi	
		Tshitenge	
Sud Kivu	Kabare	Kabare	Kabare Katana Nundu Nyangezi
	Kaniola	Katana	
	Katana	Miti-Murhesa	
	Lemera	Nundu	

[6] List compiled using September 2022 Nutrition Cluster mapping data.
[7] List provided by WFP.

Provinces	Health Zones Targeted in 2022[6]	Health Zones Targeted in 2023[7]	Health Zones Targeted in both 2022 and 2023
	Mubumbano	Nyangezi	
	Mwenga		
	Nundu		
	Nyangezi		
	Ruzizi		
	Tshishimbi		
	Walungu		
Tanganyika	Not targeted for this period	Ankoro	None
		Kansimba	
		Manono	
		Moba	
		Nyunzu	

Informants provided few examples of when BSFP has been phased out in the DRC. Instead, informants in the DRC largely emphasized the need to continue and expand the coverage of BSFP. They predominantly saw BSFP as successful in decreasing wasting rates based on their implementation experience (rather than evaluations as discussed in learning question 2). An implementing partner gave their impression of the benefits from BSFP in general:

> "With this approach, the results are palpable. In particular, there is a decrease in the rate of low birthweight children and fewer cases of both moderate and severe acute malnutrition in areas where this approach is used. This is a good approach that we encourage." (Implementing partner, National level)

Informants noted that the underlying conflict and concomitant limited livelihood opportunities that are the root causes of wasting in the DRC have not improved, and therefore felt that the need for BSFP continues. One implementing partner explained the challenge of knowing when BSFP could be phased out given the ongoing conflict:

> "The reality is that the areas where we intervene, there is insecurity. There is insecurity from armed groups, there is war between the [Armed Forces of the Democratic Republic of Congo/Forces Armées de la République Démocratique du Congo] FARDC, armed groups or foreigners who come to fight. Here, it is difficult to have a projection, to say: 'When is this war going to end?'" (Implementing partner, National level)

At the global level, a UN-affiliated informant explained that when situations stabilize and households can provide for themselves that BSFP is phased out:

> "When people get back to getting the situation under control, going back to livelihood activities, having more purchasing power and income, etcetera, then often it's phased out." (UN-affiliated, Global level)

Learning Question 4: Wasting Trends in the DRC

Summary of Findings: Learning Question 4

We were unable to identify trends in wasting admissions data or trends in caseloads of other childhood diseases that may be driving wasting rates in the DRC due to the poor quality of available secondary data. Therefore, we were also unable to draw any conclusions about the appropriateness of the timing of BSFP distributions during the lean season or the overall appropriateness of BSFP as a way to prevent or reduce wasting caseloads within the DRC context.

The original intent of including the health zone secondary data analysis in this learning activity was to try to gain some insight into the possible drivers of wasting in selected health zones implementing BSFP in the DRC. The intent was also to determine whether the timing of BSFP distribution makes sense based on when wasting caseloads peak and how that corresponded with the lean season. We also tried to look at data for other childhood illnesses, including malaria and diarrhea, to see whether wasting caseload peaks corresponded with peaks in these conditions, which could indicate that wasting rates are being driven by disease rather than food insecurity. We also looked at the number of childhood consultations as a proxy for access to health services.

As noted in the limitations section, the quality of DHIS2 data meant that we were unable to make sense of the caseload patterns that came out of our analysis. Total numbers of cases varied dramatically year on year, sometimes exceeding the total estimated population of children in the geographic area. Peaks and troughs in the data were also erratic and did not indicate a seasonal pattern. However, we suspect that this is primarily due to the data quality issues and not necessarily that seasonal patterns do not exist. We were unable to conduct follow-up interviews at the zonal or facility level to better understand whether there are other factors (e.g., population movements, service disruptions) that may have contributed to the highly variable data. Therefore, we were unable to confidently identify meaningful seasonal patterns in the secondary data that could give us insight into the appropriateness of the timing of BSFP interventions. We could not determine whether wasting admissions increase before, during, or after the lean season when BSFP is typically implemented and therefore cannot comment on the timing of the intervention.

We then looked at the SNSAP quarterly reports to see if we could identify, based on the surveillance data, certain quarters where health zones were more likely to pass the "alert" thresholds[8] for key wasting indicators for children and PLW. **Across the indicators, we were unable to find seasonal patterns for when health zones crossed the alert thresholds but instead saw a general deterioration of the nutrition situation over the period examined.** Based on the available SNSAP data, after the first quarter of 2020 (January–March), all but one health zone (Nundu) were consistently reaching the defined MUAC alert threshold for children 6–59 months. For both pregnant women and lactating women, there is a trend of more health zones reaching the "alert" threshold starting in 2021 compared to previous years. For pregnant women, alert levels begin in the last quarter of 2021 (July–September); for lactating women, this begins in the first quarter of 2021 (January–March). Although there are some quarters when the indicators of concern far exceed the alert thresholds, there still is no clear pattern as to when the situation worsens. The SNSAP analysis tables can be found in annex 2.

The SNSAP reports provide some additional contextual information as part of the reports. In the first half of 2020, the country was also combatting an Ebola outbreak, a localized measles outbreak, and

[8] SNSAP alert thresholds are defined as follows: ≥20 percent of children 6–59 months with MUAC <125 mm; >5 percent of children 0–59 months with edema; ≥20 percent of pregnant women with MUAC <230 mm; and ≥20 percent lactating women with MUAC <230 mm.

ongoing population movement, insecurity, and food security challenges. This is concurrent with the onset of the COVID-19 pandemic in the DRC: the first cases of COVID-19 were reported in March 2020 (MS 2020a; WHO 2023a). In the second half of 2020, economic factors, including the fall of exports and export prices, start to be mentioned followed by the increase in food prices (MS 2020b; MS 2021a; MS 2021b). Restrictions in peoples' movements and border closures due to COVID-19 lockdowns impacted cross-border trade, limited agricultural activities such as field maintenance and harvesting, and led to price speculation that caused prices to fall (FEWS NET 2020).

Without more precise data it is difficult to identify the key drivers of wasting in the DRC during this period to know whether BSFP is the correct intervention to prevent it. However, in reviewing the summarized contextual factors in the SNSAP reports, it is clear that the drivers are likely to be highly contextualized and variable, even within a single province. In interviews, informants in the DRC cited disease outbreaks, food insecurity, the ongoing conflict, population displacement, and limited livelihood opportunities and capacities as the main drivers of wasting rather than seasonal factors. As a UN-affiliated informant explained:

> "In terms of food insecurity, there is nothing to say because, for example, in Tanganyika, 100 percent of the health zones are either in phase three or phase four, so the situation is already precarious. Even today, in all the health zones, there is cholera. Cholera has become extremely prevalent in this zone, and there are also some cases of population movements, either fleeing or returning."

However, despite seasonal factors not being identified as a driver of wasting, many informants still felt the lean season was the most appropriate time to implement BSFP. As one government official explained:

> "The best time for us [to implement BSFP], according to experience, is the lean season. When there's a lean period, it means the period when we have less rain. There's not even any rain, I'd like to say drought. Drought during the dry season, when we have nothing, is a good time [for BSFP]. The lean season, as we said, is the period when even food becomes very scarce and very expensive. The cost of living is even unbearable. Where the local population has already consumed its subsistence foodstuffs, they are now starting to resort to buying on the market, this is the most appropriate period [for implementation], the lean season. Even when there are epidemics or post-epidemics, this is the best time."

Learning Question 5: Global Evidence Base for BSFP

Summary of Findings: Learning Question 5

Evidence on the effectiveness of BSFP to prevent wasting is inconclusive as the evidence is limited, mixed, and of variable quality. Evidence shows that specific BSFP designs can result, in specific circumstances, in small, statistically significant reduction in wasting. However, more high-quality evidence is needed to determine whether and when BSFP is effective and which program design components are most effective in different settings. Our evidence review found that a range of BSFP designs worked in different settings. Broadly, the evidence suggests that MQ-LNS and fortified blended flour may be appropriate when delivered with other nutrition, health, and food assistance interventions. BSFP effectiveness may vary by children's age, duration of SNF, and socioeconomic status; however, more research is needed. The evidence on conditional and unconditional cash transfers as a modality is not conclusive, but both have been found to reduce wasting and unconditional cash transfers have also been found to reduce wasting when delivered with other interventions. There is very limited evidence on food vouchers as a modality and on the cost-efficiency and cost-effectiveness of BSFP.

We reviewed published evidence on the effectiveness of BSFP to prevent or stabilize wasting, the effectiveness of cash and voucher transfer modalities, cost-effectiveness, and factors affecting implementation. Box 2 outlines the types of SNF included in the review. For studies that were reviews, we only summarize information for relevant studies in the reviews as some reviews included interventions other than BSFP. While we use wasting in the rest of the report,[9] in this section, we present the specific wasting measures used in the studies. The wasting measures presented are:

- Waist-for-height z-score (WHZ), mean difference (MD), standard difference (SD), or standard mean difference (SMD)
- Wasting, wasting prevalence or wasting incidence (percentage change, percentage point change, risk ratio (RR), or odds ratio (OR)
- MAM and SAM prevalence or incidence (percentage change, percentage point change, haxard ratio
- MUAC MD or SMD.

For cost-efficiency and cost-effectiveness studies, the outcome reported is the cost per beneficiary reached, cost per wasting case averted, or cost per disability-adjusted life year.

Box 2: Types of SNF Reviewed

BSFP provides SNF to young children and pregnant lactating women. The WFP Handbook and MAM Decision Tool recommend the following two types of SNF (WFP 2018; GNC 2017). We limited our review to these two types—

- **Fortified blended flours:** Blends of partially precooked and milled cereals (e.g., corn or wheat), soy, and vitamins and minerals. Vegetable oil is mixed into the flour or provided separately. Additional ingredients may include dried milk powder, sugar, or whey. The added vitamins and minerals meet the daily recommended intake. The product is cooked with water to make a porridge. This comes in multiple formulations, including CSB, CSB+, corn-soy-whey blend, Super Cereal, and Super Cereal Plus (WFP n.d.).
- **RUSF/MQ-LNS:** Fortified lipid-based paste/spread usually made from vegetable oil, legumes, milk powder, sugar, and vitamins and minerals. The added vitamins and minerals meet the daily recommended intake. Commercial names include Plumpy'Doz, eeZeeCup, and Wawamum (WFP 2021; WFP n.d.)

Effectiveness of BSFP in Preventing/Stabilizing Wasting

The evidence base on BSFP for wasting prevention is inconclusive, mixed, and variable in quality. Existing evidence shows that specific BSFP designs can result in small, statistically significant wasting reductions in specific circumstances. However, research is limited in this area and tests of specific BSFP designs have not been replicated to determine whether they produce consistent results in different settings. As such, the current evidence base is not conclusive about the effectiveness of BSFP to reduce wasting and cannot tell us if the same outcomes would be achieved in other settings. Overall, more high-quality evidence is needed to determine which BSFP designs are effective in which settings.

[9] Debate is ongoing about the terminology of wasting and acute malnutrition, partly driven by a desire to simplify the terms for advocacy purposes and more accurately capture risk. The trend is toward using the singular term wasting, even though low MUAC and nutritional edema fall outside the standard WHO definition of wasting (WHO 2023b). For this activity, wasting includes low weight-for-height/length, low MUAC, and nutritional edema.

Our review included seven studies that assessed the effectiveness of BSFP, showing the small size of the evidence base. Three of these studies are reviews (two peer-reviewed, one non-peer-reviewed) and four are primary research studies (two peer-reviewed, two non-peer reviewed). Six of the seven total studies found at least one statistically significant positive effect on a wasting measure (table 12).

All three reviews found a statistically significant positive effect on a wasting measure from at least one study included in the review (Pérez-Expósito and Klein 2009; Kaul et al. 2018; Das et al. 2019). The quality of this evidence was moderate or not rated by the reviews.

- A descriptive review found that one study (one of three studies) reduced wasting prevalence among children 6–59 months (4 percent reduction) when a wheat-soy-blend with oil was provided to all children compared to when it was targeted to underweight children. BSFP was delivered with general food assistance, health education, growth monitoring, parasite treatment, immunizations, vitamin A supplementation, oral rehydration salts, and home visits (Pérez-Expósito and Klein 2009). The effect was largest among children who were exposed to the program while they were 6–23 months old, likely because that is when children are most nutritionally vulnerable (Ruel et al. 2008).
- A descriptive review of WFP-implemented BSFP found that one study (one of three studies) reduced MAM prevalence (5 percentage points) by providing SNF to children 6–23 months during the lean season. Larger improvements in MAM prevalence were seen among older children (18–23 months), households with seasonal work, and households with poorer access to targeted supplementary feeding from health clinics (Kaul et al. 2018).
- A systematic review and meta-analysis found that MQ-LNS provided to children with complementary feeding interventions compared to no intervention improved mean WHZ (SMD 0.07; three studies), reduced MAM prevalence (RR 0.78; two studies), and improved mean MUAC (SMD 0.17; two studies) (Das et al. 2019).

Three of the four primary research studies found a statistically significant positive effect on a wasting measure (Oirere, Hall, and Ndumi 2010; CDC 2012; Leroy et al. 2021). The quality of this evidence ranged from low to high.

- A performance evaluation in northern Kenya found that providing CSB with oil to PLW and children 6–59 months during the lean season contributed to an improvement in mean WHZ (MD 0.28) and mean MUAC (MD 2.04). Alongside SNF, the program provided vitamin A supplementation, deworming, immunization, health education, and cooking demonstrations (Oirere, Hall, and Ndumi 2019).

Table 12. Evidence on Effectiveness of BSFP on Wasting Prevention

Publication Type and Author	Number and Types of Studies	Setting and Population	Intervention	Outcomes[a]	Evidence Quality[b]
Reviews					
Review: Descriptive; Pérez-Expósito and Klein (2009)	Two efficacy trials (Malawi), one experimental impact evaluation using cluster-randomized trial (Haiti)	Malawi 1, 2: children 6–23 months Haiti: children 6–59 months	Malawi 1, 2: MQ-LNS v. fortified-blended flour Haiti: Wheat-soy blend plus oil with general ration and health education, growth monitoring, parasite treatment, immunizations, vitamin A supplement, oral rehydration solution, and home visits	◆ Wasting prevalence: 4 percent reduction (one of one study [Haiti]) ◆ WHZ: no effect (two of two studies [Malawi 1, 2])	Not rated
Review: Descriptive; Kaul et al. (2018), Heirman, Jenkins, and Rosenzweig (2019)	One propensity score matching (Chad) Two difference-in-difference (Mali, Niger)	Chad: children 6–23 months Mali: PLW, children 6–59 months Niger: children 6–59 months	Chad: blanket supplementary feeding, community awareness raising sessions Mali: blanket supplementary feeding with some households also receiving general food distribution, school feeding, and resilience programming Niger: blanket supplementary feeding during lean season, targeted food assistance, or targeted supplementary feeding with or without food assistance for assets	◆ MAM: 5 percentage point reduction (one of three studies [Chad]) (one of three studies; [Niger])	Not rated
Review: Systematic and meta-analysis; Das et al. (2019)	Four randomized controlled trials	Chad: children 6–36 months Malawi 1: children 6–12 months Malawi 2: Children 6–18 months Bangladesh: Children 6–18 months	MQ-LNS with complementary feeding interventions compared to no intervention	◆ WHZ: SMD 0.07 (three studies) ◆ MAM: RR 0.78 (two studies) ◆ MUAC: SMD 0.17 (two studies) ◆ SAM: no effect (two of two studies)	Moderate

Publication Type and Author	Number and Types of Studies	Setting and Population	Intervention	Outcomes[a]	Evidence Quality[b]
Primary Research					
Primary research: Cliffer et al. (2020)	One geographically randomized trial	Burkina Faso: Children 6–23 months	Study arms: (1) corn-soy-whey blend with oil, (2) Super Cereal Plus, (3) MQ-LNS; (4) CSB+ with fortified oil (reference group). SBCC on the SNF and a household ration in the lean season were provided with each intervention arm.	◆ WHZ: no effect (n=6,112)	Moderate/high
Primary research: (Oirere, Hall, and Ndumi 2010)	One mixed methods performance evaluation	Northern Kenya: PLW, children 6–59 months	CSB and oil with vitamin A supplementation, deworming, and immunization, health education, and cooking demonstrations provided during the lean season.	◆ WHZ: MD 0.28 (n=3,368) ◆ MUAC: MD 2.04 (n=3,368)	Very low/low
Primary research: (CDC 2012)	One longitudinal cohort evaluation	Northern Kenya: Children 6–36 months and PLW	CSB+ with oil with vitamin A supplementation, deworming, immunization, and health education.	◆ WHZ: MD 0.22 in Turkana (n=757) and 0.38 in Wajir (n=1,012)	Very low/low
Primary research: Leroy et al. (2021)	One cluster-randomized controlled trial	Burundi: Pregnant women (2nd–3rd trimester), mothers of children under 6 months, and children 0–24 months	Varied durations of family and individual ration of CSB and fortified oil with strengthening and promotion of use of health services and BCC to promote adequate health, hygiene and nutrition behaviors.	◆ Wasting prevalence: 3.3 percentage point decrease (treatment arms combined) (n=2,566) ◆ WLZ: SD 0.15 (treatment arms combined) (n=2,566)	Moderate/high

[a] Symbols indicate: ◆ no statistically significant effect, ◆ statistically significant positive effect.
[b] Review articles: quality of evidence rating in the article is provided or it is noted if the review did not rate the quality of evidence. For primary research studies: quality is based on whether the study design can attribute impact to the program with observational studies and performance evaluations are categorized as very low/low quality evidence and quasi-experimental and experimental studies as moderate/high-quality evidence.

- A longitudinal cohort evaluation of another program in northern Kenya found a positive effect on mean WHZ for children 6–36 months (MD 0.22 in Turkana, MD 0.38 in Wajir). The program provided CSB+ with oil to PLW and children 6–36 months, along with vitamin A supplementation, deworming, immunization, and health education (CDC 2012).
- A cluster randomized controlled trial in Burundi of a program that provided CSB with fortified oil to PLW and children 6–24 months reduced wasting prevalence (3.3 percentage points) and increased WLZ (SD 0.15). The program also provided family rations and strengthened and promoted the use of preventive health services. The improvements in wasting measures were only seen for children whose mothers started to receive SNF during pregnancy and was not seen for those who started the program at birth. In addition, wasting measures only improved among the most disadvantaged children in the study—those with mothers who could not read or had no education or who lived in households with fewer assets or a household head with no education. The effect size was also highest among children who were 6–12 months of age, which is typically the time leading up to the peak in wasting (Leroy et al. 2021).

The above evidence found that a range of BSFP designs can contribute to wasting reduction (of at least one wasting measure) in different contexts, highlighting the need for more evidence on the effectiveness of different program elements. Studies found wasting reductions when SNF was provided to children only (Kaul et al. 2018 Das et al. 2019; Pérez-Expósito and Klein 2009) and when provided to both children and PLW in households (Oirere, Hall, and Ndumi 2019; CDC 2012; Leroy et al. 2021). Only one study found that BSFP reduced wasting when provided without other interventions (Kaul et al. 2018). Other studies found that BSFP reduced wasting when provided with nutrition interventions (Das et al. 2019), nutrition and health interventions (Oirere, Hall, and Ndumi 2010; CDC 2012), and food assistance and health and nutrition interventions (Leroy et al. 2021). Some studies found variation in wasting reduction based on children's age (Leroy et al. 2021; Kaul et al. 2018), duration of SNF (Ruel et al. 2008), and socioeconomic status (Leroy et al. 2021; Kaul et al. 2018). Existing evidence suggests both MQ-LNS and fortified blended flour and may be effective with other interventions and fortified blended flours may be appropriate when caregivers can prepare and feed it as intended. One study found MQ-LNS with nutrition interventions reduced wasting (Das et al. 2019), but MQ-LNS was not effective when provided alone (Cliffer et al. 2020; Pérez-Expósito and Klein 2009). Similarly, three studies found that fortified blended flours provided to children and PLW reduced wasting when delivered with health and nutrition interventions (Oirere, Hall, and Ndumi 2019; CDC 2012) or with food assistance and health and nutrition interventions (Leroy et al. 2021). However, studies of fortified blended flours without other interventions did not reduce wasting (Pérez-Expósito and Klein 2009; Cliffer et al. 2020). Studies have also documented that porridge from fortified blended flours needs to be prepared properly and caregivers need to have sufficient time available to prepare and feed the porridge (Langlois et al. 2020; Shen et al. 2020).

Cash and Voucher Transfer Modalities

We reviewed the evidence on the use of transfer modalities other than SNF to prevent or reduce wasting—unconditional and conditional cash transfers (with and without in-kind assistance) and food vouchers. **The evidence on cash transfers and wasting prevention is inconclusive, mixed, and of variable quality.**

Our review included six studies that assessed the use of vouchers or cash modalities to prevent or reduce wasting. Five of these studies were reviews (three peer-reviewed, two non-peer reviewed) and one was a primary research study (one peer-reviewed). Six of the seven total studies found at least one statistically significant positive effect on a wasting measure (table 13).

Four of five reviews found a statistically significant positive effect on a wasting measure from at least one study included in the review (Aurino and Giunti 2022; Bastagli et al. 2016; Daalen et al. 2022; Manley, Alderman, and Gentilini 2022). The evidence was of medium to high quality or not rated by the review.

- A descriptive review reported that unconditional cash transfers improved WHZ (MD 0.11) in one study (one of one study) and reduced wasting (OR 0.52) in one study (one of four studies). In the one study that found improvements in wasting measures, the effects were seen at the end of the six-month program but not at the follow-up six-months after the intervention ended (Aurino and Giunti 2022).
- A descriptive review included a reduction in the probability of wasting (13 percentage points) in one study (one of two studies) from cash transfers (conditionality not specified) (Bastagli et al. 2016).
- A systematic review included one cash transfer program (one of one study) that improved WHZ (MD 1.82) that was conditional on the mothers' attendance at a health and education session prior to each cash transfer. The review included one study of unconditional cash transfers with in-kind food assistance and food vouchers (one of two studies) that increased MUAC (MD 1.3). Two food voucher program studies included in the review (two of two studies) showed an increase in MUAC (MD 0.4–0.9) (Daalen et al. 2022).
- A systematic review and meta-analysis found that conditional and unconditional cash transfers had a modest wasting reduction of 1.3 percent (25 studies). In subgroup analysis, programs in sub-Saharan Africa had more strongly significant effects than those in South Asia, East Asia, and Latin America (Manley, Alderman, and Gentilini 2022).

Table 13. Evidence on the Effectiveness of Other Modalities for Wasting Prevention

Publication Type and Author	Number and Types of Studies	Setting and Population	Intervention	Outcomes[a]	Evidence Quality[b]
Reviews					
Review: Descriptive; Aurino and Giunti (2022)	Three randomized controlled trials (two Niger, one Uganda) One non-randomized cluster control trial (Somalia) One cluster randomized controlled trial (Pakistan)	Niger 1, 2: Children 6–23 months Uganda: Children 1–7 years Somalia: Children 6–59 months in refugee camps Pakistan: Children 6–48 months	Yemen, Uganda, Niger 1, 2: Unconditional cash transfer Somalia: Unconditional cash transfer, non-food item kit, and free piped water Pakistan: Unconditional cash transfer, fresh food voucher	Unconditional cash: ◆ WHZ: MD 0.11 (One of one study [Pakistan]) ◆ Wasting: OR 0.52 (One of four studies [Pakistan]) Unconditional cash and in-kind: ◆ Wasting: no effect (One of one study) Fresh food voucher: ◆ WHZ: no effect (One of one study)	High High High High
Review: Descriptive; Bastagli et al. (2016)	Three quasi-experimental studies (Bangladesh, Zambia, Indonesia) Two randomized controlled trials (Nicaragua, Tanzania)	Bangladesh: Children 12–24 months Nicaragua: Children under 5 years Zambia: Children under 60 months Tanzania: Children up to 48 months Indonesia: Children up to 36 months	Cash transfers (conditionality not specified) with or without other interventions	◆ Wasting: 13-percentage-point reduction (One of two studies [Bangladesh]) ◆ WHZ: no effect (Three of three studies)	Medium to high

Publication Type and Author	Number and Types of Studies	Setting and Population	Intervention	Outcomes[a]	Evidence Quality[b]
Review: Systematic; Daalen et al. (2022)	One longitudinal cohort study (Niger 1) One quasi-experimental study (Niger 2) One cluster randomized controlled trial (Niger 3) Two prospective cohort studies (Somalia 1, 2) One non-randomized cluster trial (Somalia 3)	Niger 1, 2: Children 6–23 months Niger 3: Children 6–59 months Somalia 1: PLW Somalia 2: Children 6–59 months Somalia 3: Children (ages not specified)	Niger 1: Unconditional cash transfer Niger 2: Cash transfer conditional on attending health and nutrition education Niger 3: Unconditional cash transfer Somalia 1, 2: Unconditional cash transfer with in-kind food and/or electronic food vouchers Somalia 3: Unconditional cash transfer	Conditional cash transfers: ◆ WHZ: MD 1.82 (1 of 1 study [Niger 1]) Unconditional cash transfers: ◆ WHZ: no effect (Three of three studies) Unconditional cash transfers with in-kind food and food vouchers: ◆ MUAC: MD 1.3 (One of two studies [Somalia 1]) ◆ Wasting: no effect (One of one study) Food vouchers: ◆ MUAC: MD 0.4-0.9 (Two of two studies [Somalia 1, 2])	Not rated
Review: Systematic and meta-analysis; Manley, Alderman, and Gentilini (2022)	Quasi-experimental or experimental studies (25 assessed wasting; 40 assessed WHZ)	Low- and middle-income countries; Children under 5	Conditional and unconditional cash transfers with or without health services and BCC interventions	◆ Wasting: -1.31 percent (25 studies) ◆ WHZ: no effect (40 studies)	Not rated
Review: Systematic Durao et al. (2020)	Six randomized controlled trials	Low- and middle-income countries; Children (ages not specified)	Conditional and unconditional cash transfers	Conditional cash transfers: ◆ Wasting: no effect (2 of 2 studies) Unconditional cash transfers:	Low Very low

Publication Type and Author	Number and Types of Studies	Setting and Population	Intervention	Outcomes[a]	Evidence Quality[b]
				◆ Wasting: no effect (Four of four studies)	
Primary Research					
Primary research: Langendorf et al. (2014)	One quasi-experimental prospective intervention study	Niger: Children 6–23 months	Unconditional cash transfer with and without SNF: (1) MQ-LNS and cash; (2) Super Cereal Plus and cash; (3) cash only	Cash only v. MQ-LNS and unconditional cash: ◆ MAM incidence: HR 2.07 ◆ SAM incidence: HR 2.12 Cash only v. Super Cereal Plus and unconditional cash: ◆ MAM incidence: HR 2.42 ◆ SAM incidence: HR 2.50	Moderate/high

[a] Symbols indicate: ◆ no statistically significant effect, ◆ statistically significant positive effect.
[b] Review articles: quality of evidence rating in the article is provided or it is noted if the review did not rate the quality of evidence. For primary research studies: quality is based on whether the study design can attribute impact to the program with observational studies and performance evaluations are categorized as very low/low quality evidence and quasi-experimental and experimental studies as moderate/high quality evidence.

The primary research study found a statistically significant positive effect on wasting measures (Langendorf et al. 2014). The study was of moderate/high quality.

- A quasi-experimental study found children who received SNF (MQ-LNS or Super Cereal Plus) and unconditional cash transfers had a twofold lower incidence of MAM and SAM compared to those receiving unconditional cash transfers only (Langendorf et al. 2014).

As described above, cash transfers and food vouchers have been shown to reduce wasting (of at least one wasting measure); however, the evidence is limited and mixed, necessitating more evidence to determine which designs are most effective in different settings. Cash transfers have been shown to reduce wasting when provided alone with and without conditions (Aurino and Giunti 2022; Manley, Alderman, and Gentilini 2022). Unconditional cash transfers have also been shown to reduce wasting when provided with in-kind food assistance and food vouchers (Daalen et al. 2022) and with SNF (Langendorf et al. 2014). One review concluded that cash transfers are more likely to have a positive effect on child growth and nutrition status if the transfers are larger, target poor and at-risk populations, and, potentially, if they are implemented for a longer duration (de Groot et al. 2015). There is limited evidence on the effectiveness of food vouchers for wasting prevention (Jeong and Trako 2022; Daalen et al. 2022), so it not possible to determine when it is most appropriate.

Cost-Efficiency and Cost-Effectiveness

There is little evidence on the cost-efficiency and cost-effectiveness of BSFP. Cost-efficiency is the monetary cost to achieve a program output and cost-effectiveness is the monetary cost per unit of each outcome (USAID Advancing Nutrition 2021). Kaul et al. (2018) note three main constraints that limit evaluators' ability to conduct cost-effectiveness analysis of BSFP—availability and reliability of data, lack of data on cost per activity, and the difficulty of assigning costs when projects have multiple interventions that affect multiple outcomes.

Our review included three studies that assessed cost-efficiency or cost-effectiveness of in-kind assistance BSFP or cash transfers. One study was a review (one non-peer-reviewed) and two were primary research studies (two peer-reviewed) (table 14).

Table 14. Cost-Efficiency and Cost-Effectiveness of BSFP

Publication Type and Author	Number and Types of Studies	Setting and Population	Intervention	Cost	Evidence Quality[a]
Approach: BSFP					
Review: Descriptive; Kaul et al. (2018)	Three quasi-experimental: Chad: propensity score matching; Mali: difference-in- difference; Niger: difference-in-difference)	Chad: Children 6–23 months Mali: PLW, children 6–59 months Niger: children 6–59 months	Chad: blanket supplementary feeding, community awareness raising sessions, TSFP available Mali: blanket supplementary feeding with some households also receiving general food distribution, school feeding, and resilience programming Niger: blanket supplementary feeding during lean season, targeted food assistance, or targeted supplement-ary feeding with or without food assistance for assets	Cost-effectiveness: Shift from MAM to non-MAM: $352.60 (for BSFP and food assistance) (Niger) MAM or SAM case averted: $597 (Chad)	Not rated
Primary research: Cliffer et al. (2020)	One geographically randomized trial	Burkina Faso: Children 6–23 months	Study arms: (1) corn-soy-whey blend with oil; (2) Super Cereal Plus; (3) MQ-LNS; (4) CSB+ with fortified oil (reference group). SBCC on the SNF and a household ration in the lean season were provided with each intervention arm.	Cost-efficiency: CSB+ with oil/child: $122 Corn-soy-whey blend with oil/child: $140 Super Cereal Plus/child: $226 RUSF/child: $245 (No study arms reduced WHZ)	Moderate/ high
Approach: Other Modalities					
Primary research Trenouth et al. (2018)	One randomized controlled trial	Pakistan: Children 6–48 months	Study arms: (1) control group; (2) standard cash ($14/month); (3) double cash ($28/month); and (3) fresh food vouchers (value of $14/month). All were distributed for six months, accompanied by BCC sessions.	Cost-effectiveness: For double cash: Wasting case averted: $4,865 Disability-adjusted life year averted: $641 (Standard cash and fresh food vouchers did not reduce wasting)	Moderate/ high

[a] Review articles: quality of evidence rating in the article is provided or it is noted if the review did not rate the quality of evidence. For primary research studies: quality is based on whether the study design can attribute impact to the program with observational studies and performance evaluations are categorized as very low/low quality evidence and quasi-experimental and experimental studies as moderate/high quality evidence

One review and one primary research study assessed cost-effectiveness and both found that the interventions were cost-effective (Kaul et al. 2018; Trenouth et al. 2018). The studies were of moderate/high quality or not rated by the review.

- A descriptive review of WFP BSFP programs reported that it cost $352.60 to shift one child from MAM to non-MAM status in Niger and it cost $597/MAM or SAM case averted in Chad (Kaul et al. 2018). Interventions in both countries can be considered cost-effective because they are lower than the GDP per capita of the countries, at $533/person in Niger and $717/person in Chad as of 2022 (World Bank 2023).

- A randomized controlled trial in Pakistan found that a cash transfer cost $641/DALY averted and $4,865/wasting case averted. This can be considered cost-effective as it is lower than Pakistan's GDP of $1,435/person (Trenouth et al. 2018).

One primary study reported cost-efficiency. This study is of moderate/high quality.

- A geographically randomized trial in Burkina Faso reported that CSB+ with fortified oil cost $122/child, corn-soy-wheat blend with oil cost $140/child, Super Cereal Plus cost $226/child, and MQ-LNS cost $245/child. However, these products did not reduce wasting in this study (Cliffer et al. 2020).

Implementation Factors

A few studies reported factors that facilitated and constrained implementation of supplementary feeding programs. Given the limited evidence about implementation factors affecting BSFP, we include evidence that combined evidence on BSFP and targeted supplementary feeding programs. These factors summarized in table 15 below.

Table 15. Implementation Facilitators and Constraints

Topic	Facilitator	Constraint
SNF distributed	• High quality and quantity of the supplement (Kristjansson et al. 2016) • Supplement met children's needs and was seen as acceptable, affordable, and useful by caregiver (Kristjansson et al. 2016) • Geographic proximity to health centers or food distribution centers (Kaul et al. 2018)	• Supplement is not seen as acceptable and palatable (Kristjansson et al. 2016; Langlois et al. 2020)
SNF supply	• Reliable supply chain (Kristjansson et al. 2016)	• Infrastructure weaknesses, including distance between health centers and communities (Kaul et al. 2018) • Distribution site was far from home (Kristjansson et al. 2016) • Supply chain breakdowns and irregular distribution due to erratic supply, insecurity (Kristjansson et al. 2016; Young et al. 2004)

Topic	Facilitator	Constraint
Household environment	• Enabling home environment for child feeding, including sufficient space, clean water, and few distractions (Kristjansson et al. 2016) • Caregivers had to be capable of learning and changing, be receptive and responsive to intervention offered, be okay with treating malnourished child differently, trust the program (Kristjansson et al. 2016)	• Substantial sharing of supplement with other family members (Kristjansson et al. 2016) • Caregivers sometimes substituted usual food with supplement (Kristjansson et al. 2016) • Extreme poverty, poor sanitation, and lack of clean water (Kristjansson et al. 2016) • Low levels of health and nutrition literacy among caregivers (Kristjansson et al. 2016) • Can be difficult for recipients to be committed and follow program guidelines (Roubert et al. 2018)
Program implementation	• Program staff were motivated, capable of maintaining the supply chain, supported caregivers, and adapted efforts in light of data (Kristjansson et al. 2016) • Involving stakeholders in last-mile distribution (Roubert et al. 2018) • Early negotiations between partners to improve coordination (Kaul et al. 2018)	• Low coverage of SBCC and limited community sensitization during program implementation (Kaul et al. 2018) • Overburdened community volunteers, which limits delivery of SBCC and results in poor data quality on cases (Kaul et al. 2018) • Poor recordkeeping and maintenance of case registers at health centers and poor quality project M&E (Kaul et al. 2018)

Learning Question 6: BFSP Funding in the DRC

Summary of Findings: Learning Question 6

USAID has provided most of the funding for BSFP in the DRC in some recent years. Both donors we spoke to, regionally based ECHO staff and global BHA staff, stated that they try to be very selective about where BSFP is implemented and emphasized contextual considerations including the level of food insecurity, access, and other types of nutrition programming in the intervention area.

We reviewed Nutrition Cluster mapping data to identify potential funders of BSFP in the DRC. As of September 2022, the only listed funders of BSFP were WFP; BHA; the Foreign, Commonwealth and Development Office (FCDO), and WorldVision. However, when we followed up with FCDO to learn more about their support to BSFP in the DRC, they told us that they were not funding BSFP in the DRC. In the most recent mapping data (January–February 2023), WFP and WorldVision were the only listed funders of BSFP.

USAID, via WFP, has been the primary funder of BSFP in the DRC in some recent years. According to the OCHA Financial Tracking Service, USAID contributed more than 55 percent ($530.4

million) of the overall funding received for the 2022 HRP. The next-highest donor contributed just more than 7.5 percent. Of this contribution, $67.3 million was contributed to the nutrition field cluster/sector and $223.7 million to the food security field cluster/sector (OCHA 2023b). A UN-affiliated informant estimated that BHA has typically funded 90 to 95 percent of BSFP in the DRC.

We also spoke to global and regionally based key informants at ECHO and USAID about their perspectives on BSFP. While USAID has been a key donor for WFP in the DRC, and by extension WFP's BSFP activities in some years, ECHO funds other nutrition interventions in the DRC, such as treatment of wasting, but not BSFP. Key informants from ECHO explained that ECHO is generally quite selective about where BSFP is considered to be an appropriate intervention and that it is not often included in their partners' project proposals. Examples cited include refugee camps and areas experiencing a humanitarian crisis where regular access to the population might be a challenge. ECHO placed a strong emphasis on diet quality, noting that they had used MQ-LNS to complement what were anticipated to be very poor-quality diets. In describing their food-based programming, ECHO informants also mentioned providing general food assistance and noted that in places where they have supported BSFP that it is linked to these general food assistance programs. Informants also mentioned that they had experienced logistical challenges with past BSFP including late and irregular distributions and inadequate coverage. They cited these reasons to explain why BSFP is often one of the last options considered when trying to prevent wasting in at-risk populations.

Context and co-location of other nutrition interventions in the area proposed for BSFP play an important role in USAID's decision-making about funding BSFP programming. For example, USAID felt it was important to ensure wasting treatment is well funded so that referral pathways are in place. If enough funding remains, BSFP may be an appropriate prevention approach to consider alongside the treatment, although reservations about its effectiveness to prevent wasting were noted. In some countries, USAID only funds BSFP in areas categorized as IPC 4 or 5. Other considerations mentioned by USAID informants included support for BSFP from a country's Ministry of Health and/or the Nutrition Cluster, overall GAM levels, and the co-location of other household food support programs. Programming trade-offs were also mentioned. USAID informants referred primarily to the MAM Decision Tool as the primary guidance document to aid in decision-making about BSFP implementation.

Discussion, Conclusion, and Recommendations

Discussion

At the global level, there is no definitive guidance document on BSFP and the guidance that does exist is not harmonized. Stakeholders also suggested that the forthcoming WHO wasting guidelines will be relevant, meaning that further updates may be required in the near future. The WFP *Food and Nutrition Handbook* and the MAM Decision Tool provide the most detailed guidance on BSFP implementation, whereas guidance in the *Sphere Handbook* is limited. WFP and the MAM Decision Tool guidance are harmonized on the giving the highest level of prioritization to children 6-23 months for BSFP and are generally harmonized on the products to be provided, with some minor deviations in the types of fortified flours to be provided. However, from there the guidance largely begins to diverge, especially when it comes to geographic targeting. WFP guidance states that BSFP should be provided in geographic areas with high GAM and where it is possible to implement from an operational perspective (WFP 2018), while the MAM Decision Tool emphasizes using BSFP in emergency contexts and considers aggravating factors, such as increased morbidity, decreased food security, significant population displacement, and population density (GNC 2017).

A lack of harmonized global guidance on BSFP has likely contributed to the lack of consistency among DRC-specific BSFP guidance documents as well. Although BSFP in the DRC is implemented according to very broad global guidance standards in terms of targeting the correct populations, it is difficult to determine how closely geographic targeting criteria is being adhered to in part because DRC-specific guidance on this point is not consistent. In addition, information used for this decision-making is not publicly available in a collated format. A lack of collated information also is a problem when it comes to co-location of BSFP with other complementary interventions. While the Nutrition Cluster conducts mapping of severe- and moderate-wasting treatment, BSFP, and IYCF-E interventions, information on general food assistance is collected and reported on by the Food Security Cluster in a completely different format. Information on key routine health and nutrition interventions, such as supplementation, deworming, and other preventive care are also not readily available to determine how these interventions are overlaid or offered alongside BSFP.

Guidance about monitoring and evaluating BSFP does not exist in any of the reviewed documents. Global guidance and DRC-specific guidance characterize BSFP as an intervention to prevent wasting. However, the current indicators used to measure BSFP outcomes, minimum dietary diversity for women, and minimum acceptable diet for children are not appropriate for this intended objective. Measuring the impact of BSFP can be complex and challenging especially when multiple interventions are targeting the same population; however, there is a clear need for more work to be done in developing and/or identifying more appropriate indicators and global guidance to measure BSFP's intended outcome.

The global evidence base on BSFP is inconclusive as it is limited, mixed, and of variable quality. Existing evidence has found that specific BSFP designs have resulted in small, statistically significant wasting reductions in different program settings. However, more high-quality evidence is needed to determine if and when BSFP is effective and which program design components are most effective in different settings (e.g., targeting criteria, duration of programs, delivering with other interventions).

Our review suggests that existing evidence is largely in line with global guidance and highlights the need for more evidence across BSFP design components. Global guidance recommends providing SNF to children under 5 or 6–23 months (GNC 2017; WFP 2018), which is supported by our review (Kaul et al.

2018; Das et al. 2019; Pérez-Expósito and Klein 2009; Oirere, Hall, and Ndumi 2019; CDC 2012; Leroy et al. 2021). As is supported by global guidance, BSFP has been found to improve wasting outcomes when delivered during the lean season (Kaul et al. 2018; Oirere, Hall, and Ndumi 2019). Global guidance suggests it is beneficial to provide food assistance to the household in addition to BSFP but does not provide recommendations on providing health interventions (WFP 2018; GNC 2017). Our review showed BSFP can be effective when provided with nutrition, health, and food assistance interventions (Das et al. 2019; Oirere, Hall, and Ndumi 2010; CDC 2012; Leroy et al. 2021). Some studies found variation in wasting reduction based on children's age (Leroy et al. 2021; Kaul et al. 2018), duration of SNF (Ruel et al. 2008), and socioeconomic status (Leroy et al. 2021; Kaul et al. 2018). Current guidance however does not specify vulnerability criteria outside of pregnancy, lactation, and age status, and recommends only providing BSFP for three to six months (GNC 2017; WFP 2018). Global guidance recommends both MQ-LNS and fortified blended flours, which our review found were typically effective when provided with other interventions (Das et al. 2019; Oirere, Hall, and Ndumi 2019; CDC 2012, Leroy et al. 2021). More high quality evidence is needed about which SNF are most effective for children and PLW in different circumstances. In addition, SQ-LNS is a promising intervention for wasting prevention in stable settings (Das et al. 2019) that warrants testing in emergency settings. Our review suggests that conditional and unconditional cash transfers (Aurino and Giunti 2022; Manley, Alderman, and Gentilini 2022) and unconditional cash transfers with other interventions (Daalen et al. 2022; Langendorf et al. 2014) can reduce wasting. Global guidance indicates that cash transfers can be used alone where food and nutrient availability is good, markets are functioning, and caring practices are adequate (GNC 2017; WFP 2018).

Conclusion

In some contexts and with certain program designs, BSFP has contributed to wasting reductions and can be an effective strategy to help reduce wasting among highly vulnerable populations. However, more high-quality evidence is needed to determine whether (and when) BSFP is effective and which program design components are most effective in different settings. Further, the current global guidance for BSFP is not harmonized, and in some cases, does not address elements of program design that some studies suggest may influence effectiveness. In light of the forthcoming WHO Guidelines on wasting prevention, global nutrition practitioners should take the opportunity to conduct additional research into BSFP effectiveness and then update global guidance to align with the new WHO Guidelines and current evidence base for BSFP and similar food-based prevention interventions. The design and implementation of BSFP in the DRC can be improved to align with the existing evidence base (table 16) and implementers and donors should collaborate to address the main implementation challenges around SNF supply chain and funding.

Table 16. Design Considerations to Improve Likelihood of BSFP Effectiveness

Design Questions	Considerations Based on Evidence Review	Current Practice in the DRC
Who should be targeted?	• PLW • Children 6–23 months • Children from poor and vulnerable households if resources are limited	Children 6–23 months and PLW are the priority target populations. However, vulnerability criteria are less clear and could be enhanced.

Design Questions	Considerations Based on Evidence Review	Current Practice in the DRC
What modality should be used?	• In-kind support in the form of SNF • General food assistance for the household in the form of: — cash transfers when sufficient access to markets (including distance, safety to travel) and availability of nutritious foods at markets exists, or — family food rations or food assistance for assets when households have the ability to prepare food rations.	BSFP currently only uses in-kind SNF. No informants mentioned using cash or vouchers alongside BSFP. Co-location of BSFP alongside general food assistance was not consistent.
When and where should SNF be distributed?	• Determine the drivers of wasting in locale and distribute at appropriate times: — If driven by seasonality, distribute SNF at least during lean season and a month prior to and after the end of the lean season. — If not driven by seasonality, consider providing for PLW and during pregnancy and to children throughout the 6–23 month period.	BSFP distributions happen over a four-month during the lean seasons. However, there is no context-specific information about the drivers of wasting in the DRC to determine if this is the appropriate timing for the intervention or if wasting is driven primarily by food insecurity or other factors.
What kind of SNF should be provided?	• MQ-LNS or fortified blended flours • If fortified blended flours are provided: — SBC interventions need to be incorporated to encourage caregivers to prepare the porridge with an adequate amount of oil and to encourage family support to feed children given the additional time burden of preparing and feeding the porridge. — Consider providing with health and nutrition interventions • SNF that is palatable, culturally appropriate, approved by the caregiver, and energy dense	Some SBC interventions, such as cooking demonstrations, were mentioned but details about the specific messages and the quality of the interventions was not available. Key informants did not mention whether any acceptability studies had been done before choosing the type of SNF used for BSFP in the DRC.
What will support successful implementation?	• Provide strong supervision and management. • Hire staff with strong capacity or provide support to strengthen staff capacity. • Involve stakeholders in last-mile distribution.	Operational capacity is one of the targeting criteria considered by WFP when determining where to implement BSFP. Implementing partners mentioned sensitizing communities prior to starting enrolment and distributions.

Design Questions	Considerations Based on Evidence Review	Current Practice in the DRC
What kinds of other interventions should be co-located or integrated in the short-term?	• Provide household support, in the form of— — cash transfers when sufficient access to markets (including distance, safety to travel) and availability of nutritious foods at markets exists, or — family food rations or food assistance for assets when households have the ability to prepare rations • Consider integrating with interventions that address key constraints to a positive response to SNF in the short term, including— — SBC on IYCF for families and caregivers, including topics such as responsive feeding, feeding diverse and healthy foods, and early childhood development — health interventions to help control and prevent risk of infection and inflammation.	Information on co-located interventions and coordination between implementing organizations is limited. This is likely an area in need of strengthening.

Recommendations

Based on the findings across the learning questions, we developed several recommendations for WFP and donors focused on BSFP in the DRC and more broadly applicable to BSFP in similar humanitarian and protracted emergency situations.

- **In the DRC, WFP, in consultation with nutrition stakeholders, should consider—**

1. Working with the Nutrition Cluster and the DRC Programme National de Nutrition (National Nutrition Program [PRONANUT]) to make selection criteria transparent and consistent. When funding is insufficient to reach all eligible populations, consider reviewing vulnerability criteria to reach the most at-risk populations given consistent funding shortfalls.
2. Conducting primary research to determine the geographically specific drivers of wasting, including whether they are seasonal, whether BSFP is the appropriate prevention intervention for the targeted geographic areas, and when to implement BSFP if it is appropriate.
3. Providing implementing partners with longer term (e.g., two year), flexible agreements to reduce administrative burden and allow for longer term planning. This would require the Nutrition Cluster to either prioritize health zones for a longer time horizon or require WFP to build flexibility into the agreements so partners can change their implementation areas should geographic priorities change during the contract period.
4. In the long-term, working with government stakeholders to improve the quality of wasting data and develop plans to transition BSFP to national social protection plans and budgets

(e.g., using USAID Advancing Nutrition guidance on developing plans to transition USAID-funded activities to domestic plans and resources).

- **Globally, WFP, donors and researchers should consider—**

  1. Filling key evidence gaps on the effectiveness of BSFP to prevent wasting, by funding experimental or quasi-experimental studies (ideally multi-country) that test the comparative effectiveness and cost-effectiveness[10] of—
     - — different targeting approaches, including children's age, pregnancy status, and vulnerability criteria
     - — small quantity lipid nutrient supplement (SQ-LNS) in emergency contexts
     - — different packages of SNF with short-term nutrition and health interventions integrated with BSFP (e.g., vitamin A supplementation, deworming, immunization, breastfeeding counseling, IYCF SBC, multiple micronutrient supplementation for pregnant women) and general food assistance or cash transfers
     - — different timing and length of BSFP package distribution
     - — different SNF for PLW to prevent wasting (e.g., balanced energy protein supplementation, SQ-LNS formulations for women, Super Cereal)
  2. Reviewing the following aspects of BSFP guidance during update processes based on an expanded evidence base and in light of the recently released *WHO guideline on the prevention and management of wasting and nutritional oedema (acute malnutrition) in infants and children under 5 years*:
     - — the timing and length of distributions based on the primary drivers of wasting in subnational areas
     - — provision of general food assistance or cash transfers alongside BSFP to support the household

[10] Drawing from existing resources like USAID Advancing Nutrition's Technical Brief on Costing Multi-Sectoral Nutrition Activities and Strengthening Economic Evaluation for Multi-Sectoral Strategies for Nutrition project resources.

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Annex 1. Geographic Targeting Data for Health Zones Selected for BSFP in January 2023

Province	Health Zone	Prioritized in 2023 HRP (Yes or No)	Nutrition Cluster Prioritization (July 2022 list)	IPC Acute Food Insecurity Projection (January - June 2023)	IPC Acute Malnutrition Projection (January - June 2023)
Ituri	Aungba	N	High	Phase 3 (Crisis)	Phase 3 (Serious)
	Biringi	N	High	Phase 2 (Stressed)	Phase 3 (Serious)
	Bunia	Y	High	Phase 3 (Crisis)	Phase 3 (Serious)
	Gethy	N	High	Phase 3 (Crisis)	Phase 3 (Serious)
	Lolwa	Y	High	Phase 3 (Crisis)	Phase 3 (Serious)
Kasaï	Kalonda Ouest	Y	Medium	Phase 3 (Crisis)	no data
	Kamonia	Y	Medium	Phase 3 (Crisis)	no data
	Kamwesha	Y	High	Phase 3 (Crisis)	no data
	Kitangua	Y	High	Phase 3 (Crisis)	no data
	Mutena	Y	Medium	Phase 3 (Crisis)	no data
	Ndjoko Punda	Y	Medium	Phase 3 (Crisis)	Phase 4 (Critical)
	Nyanga	Y	Medium	Phase 3 (Crisis)	no data
Kasaï Central	Bena Leka	Y	High	Phase 3 (Crisis)	Phase 4 (Critical)
	Bena Tshiadi	Y	High	Phase 3 (Crisis)	Phase 3 (Serious)
	Demba	Y	High	Phase 3 (Crisis)	no data
	Dibaya	Y	High	Phase 3 (Crisis)	Phase 3 (Serious)
	Katende	Y	High	Phase 3 (Crisis)	Phase 3 (Serious)
	Lubunga	Y	High	Phase 3 (Crisis)	Phase 3 (Serious)
	Mutoto	Y	High	Phase 3 (Crisis)	Phase 4 (Critical)
	Muetshi	Y	High	Phase 3 (Crisis)	Phase 3 (Serious)

Province	Health Zone	Prioritized in 2023 HRP (Yes or No)	Nutrition Cluster Prioritization (July 2022 list)	IPC Acute Food Insecurity Projection (January - June 2023)	IPC Acute Malnutrition Projection (January - June 2023)
	Ndekesha	N	High	Phase 3 (Crisis)	Phase 3 (Serious)
Kasaï Oriental	Cilundu	N	Medium	Phase 3 (Crisis)	Phase 4 (Critical)
	Tshitenge	Y	High	Phase 3 (Crisis)	Phase 3 (Serious)
	Lukelenge	Y	High	Phase 3 (Crisis)	Phase 3 (Serious)
	Miabi	Y	High	Phase 3 (Crisis)	Phase 4 (Critical)
	Mukumbi	Y	High	Phase 3 (Crisis)	Phase 3 (Serious)
	Nzaba	Y	High	Phase 3 (Crisis)	Phase 3 (Serious)
	Tshishimbi	Y	High	Phase 3 (Crisis)	Phase 3 (Serious)
Sud Kivu	Kabare	Y	High	Phase 2 (Stressed)	Phase 2 (Alert)
	Katana	Y	High	Phase 2 (Stressed)	Phase 2 (Alert)
	Miti-Murhesa	Y	High	Phase 2 (Stressed)	Phase 2 (Alert)
	Nundu	Y	High	Phase 3 (Crisis)	Phase 3 (Serious)
	Nyangezi	N	High	Phase 2 (Stressed)	Phase 2 (Alert)
Tanganyika	Ankoro	Y	High	Phase 3 (Crisis)	Phase 3 (Serious)
	Kansimba	N	Medium	Phase 3 (Crisis)	Phase 4 (Critical)
	Manono	Y	High	Phase 3 (Crisis)	Phase 3 (Serious)
	Moba	N	Medium	Phase 3 (Crisis)	Phase 4 (Critical)
	Nyunzu	N	Medium	Phase 3 (Crisis)	Phase 3 (Serious)

Annex 2. SNSAP Trend Data

Table A2.1. Proportion of Children with MUAC <125 mm by Health Zone and Quarters of 2019–2022*

Province	Health Zone	Jan–Mar 2019	Apr–Jun 2019	Jul–Sept 2019	Oct–Dec 2019	Jan–Mar 2020	Apr–Jun 2020	Jul–Sept 2020	Oct–Dec 2020	Jan–Mar 2021	Apr–Jun 2021	Jul–Sept 2021	Oct–Dec 2021	Jan–Mar 2022	Apr–Jun 2022	Jul–Sept 2022
Kasaï	Kamonia	6%	9%	7%	10%	9%	27%	22%	43%	23%	24%	28%	21%	32%	36%	14%
	Kamwesha	20%	20%	17%	21%	17%	22%	33%	31%	24%	44%	32%	31%	38%	31%	39%
	Mutena	14%	14%	16%	16%	15%	37%	17%	22%	29%	38%	37%	37%	31%	41%	21%
Kasaï Central	Katende	30%	30%	35%	22%	37%	32%	NA[1]	NA[1]	23%	49%	40%	34%	34%	64%	62%
	Mwetshi	27%	27%	42%	24%	40%	24%	29%	24%	16%	17%	24%	51%	39%	21%	11%
Kasaï Oriental	Citenge	47%	17%	12%	13%	22%	20%	21%	28%	28%	29%	21%	39%	33%	53%	37%
Sud Kivu	Kabare	34%	34%	42%	38%	42%	41%	36%	54%	30%	58%	NA[1]	NA[1]	48%	38%	17
	Nundu	17%	NA	23%	50%	12%	16%	12%	8%	6%	20%	16%	43%	19%	17%	8%

*SNSAP alert threshold for children with MUAC <125 mm is ≥20 percent. Quarters that meet or exceed this threshold are shaded in red.
[1] Data were not reported.

Table A2.2. Proportion of Children 0-59 months with Edema by Health Zone and Quarters of 2019–2022*

Province	HZ	Jan–Mar 2019	Apr–Jun 2019	Jul–Sept 2019	Oct–Dec 2019	Jan–Mar 2020	Apr–Jun 2020	Jul–Sept 2020	Oct–Dec 2020	Jan–Mar 2021	Apr–Jun 2021	Jul–Sept 2021	Oct–Dec 2021	Jan–Mar 2022	Apr–Jun 2022	Jul–Sept 2022
Kasaï	Kamonia	2%	2%	3%	1%	4%	1%	4%	1%	2%	4%	1%	0%	0%	0%	0%
	Kamwesha	4%	4%	4%	5%	4%	3%	1%	2%	14%	12%	2%	1%	1%	1%	1%
	Mutena	5%	5%	4%	6%	3%	5%	3%	3%	3%	9%	2%	1%	0%	0%	0%
Kasaï Central	Katende	7%	7%	6%	4%	6%	3%	NA[1]	NA[1]	6%	12%	4%	13%	6%	11%	5%
	Mwetshi	7%	7%	7%	3%	5%	5%	3%	3%	1%	0%	3%	3%	3%	2%	3%

Province	HZ	Jan–Mar 2019	Apr–Jun 2019	Jul–Sept 2019	Oct–Dec 2019	Jan–Mar 2020	Apr–Jun 2020	Jul–Sept 2020	Oct–Dec 2020	Jan–Mar 2021	Apr–Jun 2021	Jul–Sept 2021	Oct–Dec 2021	Jan–Mar 2022	Apr–Jun 2022	Jul–Sept 2022
Kasaï Oriental	Citenge	8%	5%	1%	2%	3%	4%	5%	3%	4%	8%	9%	7%	14%	5%	4%
Sud Kivu	Kabare	2%	2%	3%	4%	5%	3%	3%	4%	3%	9%	NA[1]	NA[1]	4%	2%	23%
	Nundu	0%	NA[1]	1%	2%	8%	1%	1%	1%	0%	0%	1%	1%	0%	0%	0%

* SNSAP alert threshold for children with edema is >5 percent. Quarters that meet or exceed this threshold are shaded in red.
[1] Data were not reported.

Table A2.3. Proportion of Pregnant Women with MUAC <230 mm by Health Zone and Quarters of 2019–2022*

Province	Health Zone	Jan–Mar 2019	Apr–Jun 2019	Jul–Sept 2019	Oct–Dec 2019	Jan–Mar 2020	Apr–Jun 2020	Jul–Sept 2020	Oct–Dec 2020	Jan–Mar 2021	Apr–Jun 2021	Jul–Sept 2021	Oct–Dec 2021	Jan–Mar 2022	Apr–Jun 2022	Jul–Sept 2022
Kasaï	Kamonia	4%	7%	5%	6%	12%	8%	3%	18%	19%	30%	27%	21%	30%	30%	31%
	Kamwesha	16%	15%	17%	17%	20%	6%	0%	21%	14%	10%	23%	44%	33%	29%	54%
	Mutena	1%	10%	21%	10%	18%	16%	1%	11%	20%	17%	26%	29%	27%	44%	35%
Kasaï Central	Katende	27%	27%	21%	12%	18%	27%	NA[1]	NA[1]	37%	32%	31%	36%	26%	44%	23%
	Mwetshi	35%	35%	23%	15%	22%	24%	25%	36%	14%	13%	28%	36%	31%	13%	30%
Kasaï Oriental	Citenge	11%	28%	11%	6%	12%	23%	18%	6%	9%	17%	0%	36%	20%	20%	12%
Sud Kivu	Kabare	17%	17%	7%	9%	17%	23%	22%	27%	24%	19%	NA[1]	NA[1]	22%	9%	11%
	Nundu	6%	NA[1]	8%	23%	20%	11%	9%	9%	26%	22%	4%	10%	12%	13%	17%

* SNSAP alert threshold for pregnant women with MUAC <230 mm is ≥20 percent. Quarters that meet or exceed this threshold are shaded in red.
[1] Data were not reported

Table A2.4. Proportion of Lactating Women with MUAC <230 mm by Health Zone and Quarters of 2019–2022*

Province	Health Zone	Jan–Mar 2019	Apr–Jun 2019	Jul–Sept 2019	Oct–Dec 2019	Jan–Mar 2020	Apr–Jun 2020	Jul–Sept 2020	Oct–Dec 2020	Jan–Mar 2021	Apr–Jun 2021	Jul–Sept 2021	Oct–Dec 2021	Jan–Mar 2022	Apr–Jun 2022	Jul–Sept 2022
Kasaï	Kamonia	5%	8%	6%	6%	12%	14%	3%	21%	20%	22%	25%	29%	75%	27%	32%
	Kamwesha	8%	12%	27%	11%	24%	19%	1%	12%	16%	14%	31%	39%	36%	28%	52%
	Mutena	24%	15%	23%	16%	18%	18%	1%	10%	22%	21%	34%	25%	23%	20%	17%
Kasaï Central	Katende	24%	24%	19%	9%	16%	18%	NA[1]	NA[1]	22%	25%	19%	34%	27%	60%	81%
	Mwetshi	8%	8%	9%	5%	9%	18%	24%	29%	22%	22%	35%	63%	38%	44%	50%
Kasaï Oriental	Citenge	12%	24%	11%	10%	27%	17%	23%	11%	33%	13%	17%	40%	31%	23%	17%
Sud Kivu	Kabare	26%	31%	11%	25%	28%	37%	16%	30%	25%	30%	NA[1]	NA[1]	38%	14%	18%
	Nundu	6%	NA[1]	9%	20%	18%	25%	9%	8%	7%	10%	6%	11%	11%	18%	16%

* SNSAP alert threshold for lactating women with MUAC <230 mm is ≥20 percent. Quarters that meet or exceed this threshold are shaded in red.
[1] Data were not reported.

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