

ANNUAL MEETING 2022

Our Future

Nutrition in Emergencies Research Priorities—Presentation and Workshop —Day 2

- Evidence on the Effectiveness of Nutrition Interventions in Humanitarian Settings & Research Gaps (JHU, Elrha—Shannon Doocy)
- A light touch mapping of the current research gaps and priorities in nutrition in emergencies (GNC Technical Alliance, Emergency Nutrition Network—Eilise Brennan)
- Hearing from you—research priorities, challenges translating research to practice, field research support needs











CONTENTS

- Welcome
- Presentation
 - Methods for literature review and light touch research mapping exercise
 - Findings by thematic area
 - Cumulative evidence base, research gaps and priorities
 - Facilitated Breakout Sessions
 - Breakout Report Back & Next Steps



METHODS

METHODS: HUMANITARIAN HEALTH EVIDENCE REVIEW (HHER2)

Review Aim

- Assess the current quality and depth of evidence for effectiveness of public health interventions in humanitarian crises.
 - Nutrition is one of nine topic areas of focus

Study Design

- Builds on the first Elrha Humanitarian Health Evidence Review (2015), and using a similar methodology to provide an update on the state of the evidence for nine topics of humanitarian health.
 - Systematic search of key publication databases of peer reviewed literature with dual title and abstract screening
 - Data extraction and risk of bias assessment performed by a single reviewer, and topic area synthesis by two team members and review by a topic area expert

METHODS: HHER2

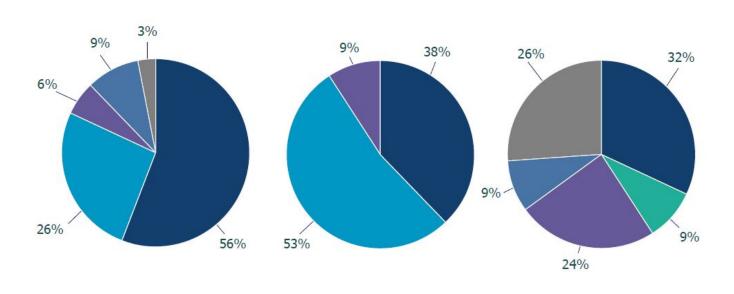
Inclusion Criteria

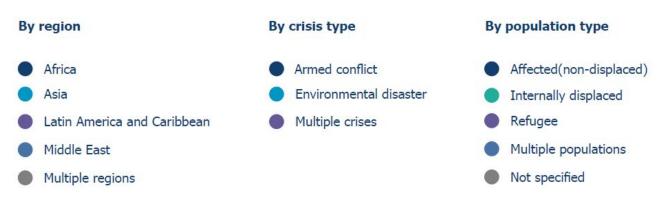
- Population: emergency-affected non-displaced, internally displaced, refugees
- Types of Study: Experimental, quasi-experimental, observational and mixed methods that evaluate intervention effectiveness; economic evaluations
- Outcomes: individual and population health indicators, health service/program outputs
- Publications: peer-reviewed journal, published in English from 1 May 2013 to 30 April 2021

Overall, 28,236 articles were retrieved in the search and 269 articles were included. Of included publications, 34 focused on nutrition.



HHER2: NUTRITION STUDY CHARACTERISTICS





Study types:

32% observational
26% randomized control trial
24% (quasi) experimental
9% mixed-methods
9% cost-effectiveness

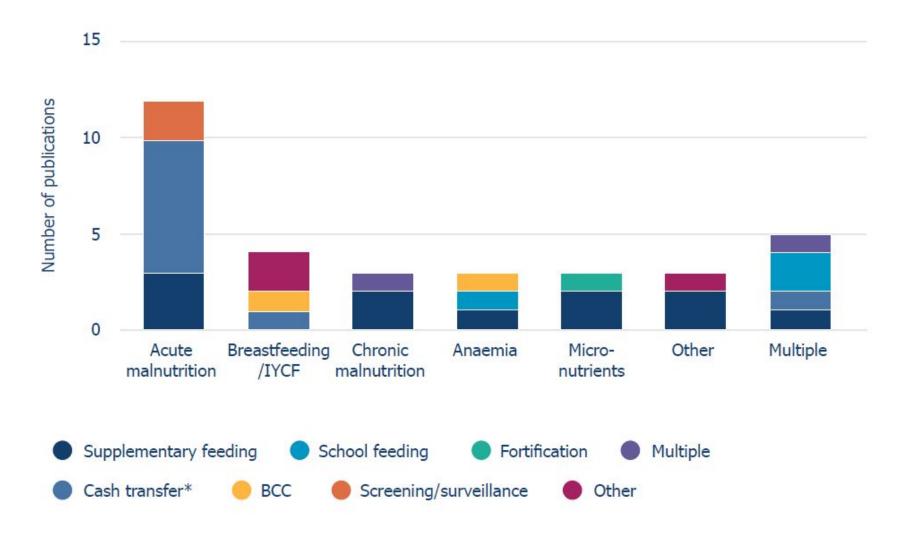
The majority of studies (71%) are from non-camp settings.

Session Title: Nutrition in Emergencies Research Priorities—Presentation and Workshop

Date: 1st of Feb 2023



HHER2: TYPES OF INTERVENTIONS OF FOCUS





Date: 1st of Feb 2023



METHODS: LIGHT TOUCH RESEARCH MAPPING EXERCISE

The aim was to highlight the key research gaps in:

- Infant and young child feeding in emergencies (IYCF-E)
- Nutrition information systems (NIS)
- Prevention and treatment of wasting
- Management of small and nutritionally at-risk infants u6m and their mothers (MAMI)
- Cash and voucher assistance (CVA) for nutrition outcomes

to help better inform and encourage researchers, non-governmental organisations and donors involved in conducting nutrition in emergencies research.



METHODS: LIGHT TOUCH RESEARCH MAPPING EXERCISE

Infant and young child feeding in emergencies (IYCF-E)

Research priorities for improving infant and young child feeding in humanitarian emergencies

Claudine Prudhon [™], Ali Maclaine, Andrew Hall, Prisca Benelli, Paige Harrigan & Jacqueline Frize

"Ask any of us 'can you show me the data?' We barely have it": A qualitative study of research priorities on infant and young child feeding in emergencies

- Mapped peer-reviewed research conducted since January 2022 in the IYCF-E repository against the 2016 research priorities.
- Explored with IFE Core Group members what they felt were the current key research priorities

Management of small and nutritionally at risk infants u6m and their mothers (MAMI)

 Small-scale, non-systematic review of peer-reviewed and grey literature to identify research conducted since 2015 against the identified research priorities **GUIDELINES AND GUIDANCE**

Research Priorities to Improve the Management of Acute Malnutrition in Infants Aged Less Than Six Months (MAMI)

Chloe Angood¹, Marie McGrath¹, Sagar Mehta², Martha Mwangome³, Mary Lung'aho⁴, Dominique Roberfroid⁵, Abigail Perry⁶, Caroline Wilkinson⁷, Anne-Dominique Israel⁸, Cecile Bizouerne⁸, Rukhsana Haider⁹, Andrew Seal¹⁰, James A. Berkley¹¹, Marko Kerac^{12,13}*, MAMI Working Group Collaborators¹

Session Title: Nutrition in Emergencies Research Priorities—Presentation and Workshop **Date:** 1st of Feb 2023



METHODS: LIGHT TOUCH RESEARCH MAPPING EXERCISE

Nutrition information systems (NIS)

- We identified research gaps through a relatively small-scale, non-systematic review
- Members (6) of NIS GTWG ranked these questions in order of priority

Cash and Voucher Assistance (CVA) for nutrition outcomes

- We identified research gaps through a relatively small-scale, non-systematic review
- Members (5) of CVA GTWG ranked these questions in order of priority

Wasting

 Summarised research gaps previously identified, articulate any published work that has begun started to address these gaps.



Session Title: Nutrition in Emergencies Research Priorities—Presentation and Workshop **Date:** 1st of Feb 2023





FINDINGS BY THEMATIC AREA

IYCF: HHER2 FINDINGS

- Four (12%) of the 34 nutrition articles focused on breastfeeding/IYCF
- These included studies on a cash transfer intervention, a behaviour change communication (BCC) intervention (nurse home visits for infant feeding- counselling), baby-friendly spaces, and ready-to-use infant formula and baby tents in infant feeding programmes. Two of the four breastfeeding/IYCF articles were observational studies, and the remaining articles reported on an randomized controlled trial (RCT) and a mixed-methods study.
- Three of the breastfeeding/IYCF interventions were in armed conflict contexts and the other followed the 2010 earthquake in Haiti. All breastfeeding/IYCF articles reported on community-based interventions and three were conducted in camp settings.
- All four breastfeeding/IYCF articles reported intervention effectiveness. Breastfeeding practices were measured in three of the four articles and WAZ was the primary outcome in the fourth article. The three articles reporting breastfeeding outcome measures also reported other outcomes, including: psychosocial well-being and support, IYCF knowledge and dietary outcomes.

IYCF-E: LIGHT TOUCH RESEARCH MAPPING

- What is the effectiveness and cost effectiveness of different complementary feeding interventions?
- To what extent are cash transfers used to buy breastmilk substitutes?
- How to design relactation interventions and how effective/cost effective are they?
- How to effectively link and mainstream IYCF-E interventions?
- What is the long-term effect of IYCF-E interventions?

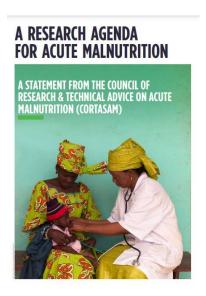
- When necessary, what is the most effective mechanism for supplying breast milk substitutes and how can it be best managed?
- How to provide effective psychosocial support to caregivers?
- How to calculate the impact of specific IYCF-E programmes on outcomes such mortality?
- When use of infant formula is necessary what are the pros and cons of ready to use infant formula vs powdered infant formula?
- How to determine the number of potential beneficiaries and coverage of IYCF-E programmes?



WASTING: HHER2 FINDINGS

- Thirteen (38%) of the 34 nutrition articles focused on wasting
- Of these, more than half (n=8, 62%) were cash transfer interventions; remaining articles focused on supplementary feeding (n=3, 23%), with one article each on MUAC screening in a polio vaccine campaign and nutrition sentinel site surveillance. The 13 articles reported findings from 7 unique studies (four reported on Research on Food Assistance for Nutritional Impact (REFANI) studies).
- Almost all wasting interventions were community-based (n=12, 92%) and most (n=7, 54%) were stand-alone interventions and not part of a multi-sector programme. A range of study designs were used including quasi-experimental Studies (n=4), RCTs (n=3), observational studies (n=3), economic evaluations (n=2) and one mixed-methods study (3 reported on cost effectiveness).
- Intervention effectiveness outcomes included wasting prevalence/incidence/odds (n=8, 62%); WHZ/WLZ (n=5, 38%); MUAC (n=4, 31%); weight gain (n=2, 15%) and diet (n=4, 31%). Wasting was the only area with enough studies reporting on a common outcomes to warrant summarization of findings.

WASTING: LIGHT TOUCH RESEARCH MAPPING EXERCISE





Prevention of child wasting: Results of a Child Health & Nutrition Research Initiative (CHNRI) prioritisation exercise

Severine Frison , Chloe Angood, Tanya Khara, Paluku Bahwere, Robert E. Black, André Briend, Nicki Connell, Bridget Fenn, Sheila Isanaka, Philip James, Marko Kerac, Amy Mayberry, Mark Myatt, Carmel Dolan, on behalf of the wasting prevention Working Group Collaborators

Published: February 12, 2020 • https://doi.org/10.1371/journal.pone.0228151

Key themes:

- 1. Impact/effectiveness of interventions for the treatment and prevention of wasting
- Improving detection/targeting for prevention and treatment of wasting
- 3. Causal pathway for wasting
- 4. Integration of treatment and prevention of wasting into health system

RESEARCH ARTICLE



Uneck for updates

Treatment of child wasting: results of a child health and nutrition research initiative (CHNRI) prioritisation exercise [version 1; peer review: 2 approved with reservations]

Chloe Angood (p) 1, Marko Kerac (p) 2, Robert Black³, André Briend^{4,5}, Kerstin Hanson (p) 6, Stephen Jarrett⁷, Mark Manary⁸, Marie McGrath⁹, Noël Zagre¹⁰, Natasha Lelijveld¹, Amy Mayberry¹, CHNRI collaborators, Council of Research & Technical Advice on Acute Malnutrition (CORTASAM)

Session Title: Nutrition in Emergencies Research Priorities—Presentation and Workshop **Date:** 1st of Feb 2023



CVA: HHER2 FINDINGS

- Ten (29%) of the 34 nutrition articles focused on cash transfer interventions.
- Cash transfers were most frequently used in the context of wasting programs (n=8 studies), and included both conditional and unconditional cash transfers or a comparison of modalities. Outcomes were most often wasting prevalence and/or change in individual anthropometrics (WHZ, middle-upper arm circumference [MUAC]).
- HHER2 did not summarize findings by intervention type. For cash transfers, this would have been difficult due to the diversity (largely due to the diversity in cash transfer size, duration and aims). In general findings were mixed, with some studies reporting significant differences and others not.
- Cash transfers is a **rapidly growing area of research**—no articles were on cash transfers in HHER1, whereas cash was one of the more common interventions of study in HHER2.
- There is little quality evidence on the efficiency or effectiveness of cash transfers and nutrition, with research characterising the effectiveness of cash transfers in terms of anthropometric measurements previously characterised as a critical gap. There have been calls to expand the evidence base for cash and nutrition, particularly given rapidly increasing use of cash transfers and the anticipated continuation of this trend as the result of the humanitarian Grand Bargain.

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CVA: LIGHT TOUCH RESEARCH MAPPING EXERCISE

What are the most promising combinations of cash, <u>voucher</u> and in-kind assistance to prevent malnutrition in different contexts? What are the impact pathways? What modalities are more adequate for the individual feeding component? Are there any differences when targeting young children or pregnant and lactating women and girls?

What are the specific impacts and pathways conferred by complementary interventions to CVA and what are the contexts in which complementary interventions are required to prevent or reduce the risk of developing malnutrition?

How does the timing, frequency, duration, transfer amount, and choice of recipient of CVA impact nutrition outcomes?

Does the programme design impact different types of malnutrition differently?

What is the comparative cost effectiveness of the different assistance modalities and the same modality with different intervention design for preventing malnutrition?

What is the impact of CVA for nutrition outcomes on gender dynamics and decision-making power in the household?

Session Title: Nutrition in Emergencies Research Priorities—Presentation and Workshop **Date:** 1st of Feb 2023



MAMI: LIGHT TOUCH RESEARCH MAPPING

- 1. How should infant <6m with wasting be defined?</p>
- What are the key opportunities/timing when infant wasting management can be incorporated with other healthcare programmes?
- 3. What are the priority components of a package of care for outpatient treatment of wasted infant?
- 4. Having detected wasting in the community, what is the efficacy of providing targeted skilled breastfeeding support to caregivers of stable infants?
- 5. How can existing tools be adapted and/or linked together to better identify and manage wasted infants <6m?

Note: HHER2 did not summarize findings on MAMI specifically (the closest topic area was IYCF/BCC)

- 6. What are the most feasible tools and techniques for assessing treatment programme coverage for wasted infants <6m?
- 7. What is the feasibility, effectiveness, costeffectiveness, and impact of different approaches to promote early initiation and exclusivity of breastfeeding?
- 8. What are the main barriers to existing inpatient interventions for wasted infants <6m and how might they be best addressed?
- 9. What is the effectiveness, cost, and safety of an outpatient-focused treatment model for infants with wasting?
- 10. Which supervision tools and approaches are most effective towards improving the front-line case management of wasted infants <6m?

NIS: LIGHT TOUCH RESEARCH MAPPING EXERCISE

How to design 'good enough' data collection systems where SMART surveys aren't possible?

How to obtain accurate nutrition information in the absence of surveys such as SMART assessments, for example, during COVID-19?

How can mortality and malnutrition estimation be better contextualised across different contexts and countries?

How can we utilise innovations such as digital technologies to provide more accurate, timely and comprehensive nutrition data?

How can we use data on food systems to inform decisions that have an impact on nutrition in emergencies?

How can we improve coverage estimates of nutrition-specific and nutrition-sensitive interventions?

Note: HHER2 did not summarize findings on NIS

Date: 1st of Feb 2023



ANAEMIA AND MICRONUTRIENTS: HHER2 FINDINGS

- Six (18%) of the 34 nutrition articles focused on anaemia and/or micronutrients
- Anaemia interventions included BCC, school feeding and supplementary feeding. Micronutrient articles reported on supplementary feeding and fortification. Anaemia/micronutrient articles included observational (n=3), RCT (n=2) and mixed-methods studies (n=1).
- Studies were evenly divided between Asia and Africa. The three studies in environmental disasters were conducted outside of camps whereas studies in conflict settings were all conducted in camps (one also included non-camp populations).
- Outcome measures in all three anaemia articles necessarily included prevalence and haemoglobin levels (two articles). The three micronutrient articles reported on very different outcomes: 1) study of micronutrient-fortified flour for pregnant women that reported on small-for-gestational age and preterm birth prevalence; 2) complementary food supplementation in children aged 6–24 months of age, which reported a range of reported anthropometric outcomes; and 3) adherence, and acceptability and consumption of a lipid-based nutrient and micronutrient powder.

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CHRONIC MALNUTRITION: HHER2 FINDINGS

- Only three (9%) of the 34 nutrition articles focused on stunting
- Two publications reported on an RCT of a food-assisted maternal and child health and nutrition programme in Guatemala (supplementary feeding); one was an economic evaluation that also examined comparable interventions in Burundi. The third article reported on a quasi-experimental study that evaluated a number of social and economic development, health and water, sanitation and waste management interventions in Angola.
- All stunting articles were community-based and implemented in non-camp settings, two of which were rural
 and the third was in both urban and rural areas.
- Of the three stunting articles, two reported on intervention effectiveness and one reported on cost
 effectiveness. The two studies reporting intervention effectiveness both analysed HAZ/LAZ as the primary
 outcome and one reported stunting prevalence. Outcomes in the economic evaluation included programme
 costs per beneficiary and costs per percentage point reduction in stunting.



CUMULATIVE EVIDENCE BASE, RESEARCH GAPS AND PRIORITIES

PROGRESS ON ADDRESSING RESEARCH GAPS: HHER2

1st Humanitarian Health **Evidence Review**

- IYCF interventions
- Prevention and management of MAM and stunting
 - Tools for monitoring and evaluation
 - Context/population specific interventions
 - Long-term effectiveness/outcomes

Progress on Addressing Gaps

- There was greater diversity in HHER2 research topics, and breastfeeding/ IYCF and stunting were the second and the third most common topic areas respectively.
- Few of the other areas recommended for future research in HHER1 were represented in HHER2.
- In general, there has been only modest progress towards addressing evidence gaps and more diverse and high quality research is still needed.



Our

Future

KEY FINDINGS, GAPS AND PRIORITIES: HHER2

Evidence base

- Diverse, with a focus on general populations affected by conflict or natural disasters, mostly in Africa.
- Wasting was the most frequent outcome of focus, and the most common interventions of study were supplementary feeding and cash transfers.

Recommendations

- Wasting remains a justifiable priority area—evidence from non-humanitarian contexts is considerable and should be consulted to inform research priorities when considering priorities and gaps in humanitarian settings.
- Other priority areas include the impact of cash transfers as well as interventions to improve breastfeeding, breast milk substitutes, re-lactation, complementary feeding, nutrition education, and multi-sectoral interventions.
- Consider persistent evidence gaps including targeting of people with disabilities and older adults, service delivery, and long-term effects of interventions. Align research with wasting burden and focus more on Asia.
- With respect to measurement and reporting in future research, use of standard definitions and common nutrition outcome indicators, use of control/comparison groups and a focus on long-term effects of interventions should be prioritised to better enable comparison of results across studies and an understanding of the longer-term benefits and effectiveness of interventions.

Global NUTRITION CLUSTER

KEY FINDINGS, GAPS AND PRIORITIES: LIGHT TOUCH RESEARCH MAPPING



Knowledge gaps:

- Lack of research on NIS and impact of CVA on children's and women/girls' nutritional status in emergency contexts.
- Need for more research on interventions to improve the identification and management of small/nutritionally at-risk infants and their mothers, prevention of wasting including through improving preconception nutrition, the need to further understand and identify children most at risk of adverse outcomes associated with wasting, management of breastmilk substitutes, re-lactation and complementary feeding.
- A **critical challenge** is the lack of high-quality research
- Research need to be designed to answer practical questions that exist on intervention design, feasibility and cost-effectiveness.
- Consensus on the most important gaps need to be better articulated by practitioners and be more visible to researchers looking to conduct research in emergency settings.

P N C

THANK YOU! QUESTIONS?

REFERENCES

BREAKOUT SESSIONS

THEMATIC AREAS



Infant and young child feeding in emergencies (IYCF-E)



Micronutrients and stunting (no breakout room)



Management of small and nutritionally at-risk infants under 6 months and their mothers (MAMI)



Nutrition Information Systems (NIS)



Wasting



Coordination (breakout room with NIS only)



Cash and Voucher Assistance (CVA) for nutrition outcomes

Session Title: Nutrition in Emergencies Research Priorities - Presentation and Workshop

BREAKOUT SESSIONS



- Room 1: Management of Small and Nutritionally At-Risk Infants
 - Rapporteur Clive, Note-Taker Yaritza
- **Room 2: Infant and Young Child Feeding in Emergencies**
 - Rapporteur Sarah, Note-Taker Karin
- **Room 3: Wasting**
 - Rapporteur Freya, Note-Taker Alfred
- Room 4: Cash & Voucher Assistance in Nutrition in Emergencies
 - Rapporteur Tonia, Note-Taker Courtney
- **Room 5: Coordination & Nutrition Information Systems**
 - Rapporteur Georgia, Note-Taker Annie

BREAKOUT ROOM QUESTIONS—MAMI, IYCF-E, WASTING, CVA

- Are these the right research priorities in the particular thematic area? What research priorities in this thematic area are missing? How should these priority questions be prioritized? (e.g., what's most urgent? Most impactful? Most neglected?)
- There have been previous research priority setting exercises in the past, but why aren't these research areas moving forward? What can be done to increase the likelihood that these gaps will be addressed and policy/practice changed?
- What are the gaps between research and implementation? What are some strategies to improve the research to practice pipeline?



BREAKOUT ROOM QUESTIONS— COORDINATION

- What are the gaps that we have in the understanding of good coordination?
- How can coordination help to facilitate and implement research in early stage response? Any good examples of coordination supporting an enabling environment for early response research? What can we learn from this?
- Are these the right research priorities in the particular thematic area (NIS)? What research priorities in this thematic area are missing? How should these priority questions be prioritized? (e.g., what's most urgent? Most impactful? Most neglected?)
- What are the gaps between research and implementation? What are some strategies to improve the research to practice pipeline?



BREAKOUT SESSIONS - REPORTING BACK

BREAKOUT SESSIONS—REPORTING BACK



- Room 1: Management of Small and Nutritionally At-Risk Infants
 - Rapporteur Clive
- Room 2: Infant and Young Child Feeding in Emergencies
 - Rapporteur Sarah
- Room 3: Wasting
 - Rapporteur Freya
- Room 4: Cash & Voucher Assistance in Nutrition in Emergencies
 - Rapporteur Tonia
- Room 5: Coordination & Nutrition Information Systems
 - Rapporteur Georgia

NEXT STEPS AND CLOSING

HHER2 Summary of Wasting Related Findings

Author, Location,	Comparison groups &	Results		
Intervention Type Intervention				
Bliss (2018)	Two group comparison	Odds of Wasting aOR	Mean WHZ	Mean MUAC
Niger	Children 6-24 months	0.04 (0.2-0.12), p<0.001	Ca: 0.3 ± 1.0	Ca: 1.42cm ± 0.10
Cash transfer	Cash (Ca) vs. control (Co)		Co: -1.2 ± 1.0	Co: 1.37cm ± 0.10
			aDiD: 1.82, p<0.001	aDiD:0.7cm, p<0.001
Doocy (2020a)	Two group comparison	Wasting Prevalence		Mean MUAC (aDiD)
Somalia	Pregnant + lactating women	V: 2.9% (-0.4-6.1%)		V: 0.9cm (0.6-1.3)
Cash transfer	Vouchers vs. mixed transfers	M: 0.0% (0.0-1.4%)		M: 1.3cm (1.1-1.5)
		aDiD:- 2.9%, p=0.086		aDiD: 0.4cm, p=0.086
Doocy (2020b)	Two group comparison	Wasting Prevalence		Mean MUAC (cm)
Somalia	Children 6-59 months	V: 0.7% (-13.1-24%)		V: 0.5 cm (0.0-0.8)
Cash transfer	Vouchers vs. mixed transfers	M: -4.8% (-12.0-6.4%)		M: 0.1 cm (-0.2-0.4)
		aDiD: -5.5%, p=.58		aDiD: -0.4 cm, p=0.13
Fenn (2017)	Three group randomized trial	Odds of Wasting aOR	Mean WHZ	
Pakistan	Children 6-48 months	SC= 1.1 (0.7-1.7), p=.66	SC=-0.1 (-0.2-0.0)	
Cash Transfer	Single cash (SC), double cash	DC= 0.80 (0.5-1.2), p=0.32	DC=0.0 (-0.1-0.1)	
	(DC), fresh food voucher (FV)	FV= 1.2 (0.8-1.8), p=0.50;	FV=0.0 (-0.1-1)	
Fabiansen(2016)	Two group comparison		No significant	MUAC Increase:
Burkina Faso	Children 6-23 mos. w/ MAM		difference in weight	6% across groups, no
Sup. Feeding	Length <67cm vs. >67cm		grain velocity	significant
Grijalva-Eternod	Two group comparison	Wasting Prevalence	Mean WHZ	Mean MUAC (cm)
(2018)	Children 6-59 months	Ca: -5.2 (-9.1—1.3)	Ca: 0.3 (0.0-0.5)	Ca: 0.4 (0.2-0.6)
Somalia	Cash (Ca) vs. control (Co)	Co: -6.3 (-11.8—0.8)	Co: 0.5 (0.4-0.6)	Co: 0.4 (0.1-0.6)
Cash transfer		DiD: 1.1 (-5.6-7.8)	DiD: -0.2 (-0.5-0.5)	DiD: -0.1 (-0.4-0.2)
Leroy (2016a)	Four group randomized trial	Wasting prevalence (DiD)		
Burundi Sup.	Children 6-24 months	P18: -4.5%, p<0.01		
Feeding	Preg →18 mos (P18),	P24: -1.6%, NS		
	Preg→24 months (P24), Birth	B24: -2.6%, NS		
	→ 24 mos (B24) vs. controls			
Sibson (2018)	Two group randomized trial	GAM prevalence aOR		MUAC<12.5cm aOR
Niger	Children 6-24 months	1.1 (0.8-1.6), p=.63		0.9 (0.4-2), p=0.77
Cash transfer	6 mos. vs. 4 mos. transfers			
*aDiD = adjusted difference in difference; aOR = adjusted odds ratio; italic indicates statistically significant difference				