



RESEARCH & INNOVATION

ORGANIZATIONAL CAPACITY STATEMENT

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OUR APPROACH

While Action Against Hunger is an operational organization, we see our research & innovation activities as our primary means of assessing and improving the effectiveness, scalability, and sustainability of our programs. As highlighted in our annual [Research Review](#), in 2018 alone, we had a total of 27 active research & innovation projects across 25 countries, including collaboration with 49 partners and funding from 17 different donors.

Our research & innovation activities are inherently fit-for-purpose. They are designed to achieve the standard of evidence necessary for action on the critical issues that we care about, whilst abiding by fundamentally strict 'do no harm' principles. In this way, our approach marries science with pragmatism – providing us with the nuts and bolts required to build the change we want to see in the world, even in the most difficult operational settings.

At its core, our approach:

- Challenges assumptions regarding what we know (and do not know) about the problem;
- Is empirically based and data-driven;
- Advances the evidence base in a way that links research to a concrete activity roadmap for impact;
- Prioritizes partnership and engagement that is profoundly collaborative in nature; and,
- Facilitates the identification of clear, culturally appropriate and sustainable pathways to scale.

EXPERTISE, CAPABILITIES & SERVICES

Action Against Hunger's technical team leads the design and development of research & innovation activities across the organization and supports the integration of evidence-based practices and technologies within our practices, policies and programs.

Technical Expertise

- Early warning information, analysis and systems
- Cash-based initiatives, including as part of social protection programs
- Maternal, infant and young child nutrition security
- Prevention and treatment of acute malnutrition
- Integration of nutrition within health services
- Water, sanitation and hygiene
- Household dynamics and decision-making

Capabilities & Services

- Operational and implementation science research
- Formative research and literature reviews
- Mixed-methods research studies
- Impact evaluations, including randomized controlled trials (RCTs)
- Costing, cost-efficiency and cost-effectiveness
- Comparative, multi-country studies
- Innovative pilots demonstrating proof of concept

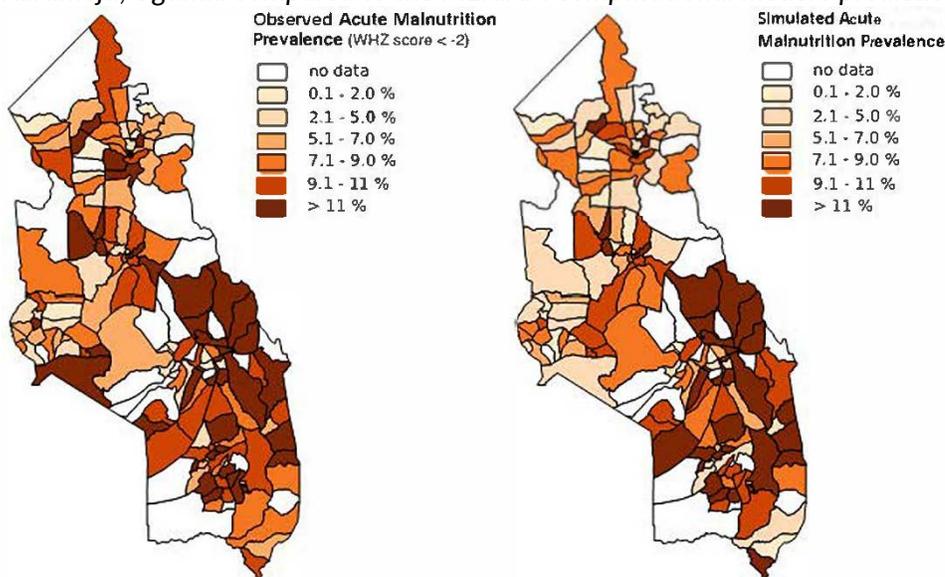
Our research & innovation activities capitalize on our relationships with **strategic donors** (e.g. USAID, DFID, ECHO, UNICEF and more), **implementing partners** (e.g. International Rescue Committee, Save the Children, Concern Worldwide) and **scientific partners** (e.g. Johns Hopkins University, Tufts University, Cornell University, London School of Hygiene and Tropical Medicine). Finally, and most importantly, through **existing platforms** – e.g. No Wasted Lives, the Cash Learning Partnership - Action Against Hunger leverages these relationships to ensure that our results advance the state-of-play and challenge the status quo at global-level.

PORTFOLIO HIGHLIGHTS

Our research & innovation portfolio is comprised of a diverse array of both global-level and country-specific projects in all stages of implementation. We highlight select initiatives in further detail here below.

Innovations in Predicting & Forecasting Nutrition Outcomes: Our [Modelling Early Risk Indicators to Anticipate Malnutrition](#) (MERIAM) project is a four-year research project funded by the UK government, which brings together an interdisciplinary team of experts (including the Graduate Institute of Geneva, Johns Hopkins University, the University of Maryland, and the University of Minnesota) under the leadership of Action Against Hunger as consortium lead. MERIAM's central aim is to identify, test, and scale up cost-effective means to improve the prediction and monitoring of acute malnutrition, through the use of open access secondary data. To do this, we employ two complementary and innovative modelling approaches - econometric and computational modelling - which are used in tandem to dynamically forecast the fluctuation of acute malnutrition in several countries (Kenya, Uganda, Somalia, and Mali), with a specific focus on incorporation of conflict- and climate-related shocks. Initial findings from MERIAM's work point to the likelihood that open source data can be used to predict acute malnutrition through both modeling approaches, and preliminary results indicate MERIAM's models perform comparative to existing 'gold standards' in forecasting used for humanitarian decision-making (e.g. FEWSnet). As the project moves into its final phases, focus will be on refining the models and integrating them into existing early warning systems to ensure sustainability of the evidence generated.

Figure 1. An example of MERIAM's modelling, as demonstrated by the observed acute malnutrition prevalence in Karamoja, Uganda compared to the MERIAM computational model's prediction for the same time period.



In addition to MERIAM's research, Action Against Hunger has also supported research to improve early warning systems for anticipatory action in emergencies, including partnerships with Tufts University and the Center for Humanitarian Change, which have resulted in the publication of, for example, [Towards Anticipatory Information Systems and Action: Notes on Early Warning and Early Action in East Africa](#) and [Constraints and Complexities of Information and Analysis in Humanitarian Emergencies: Evidence from Nigeria](#).

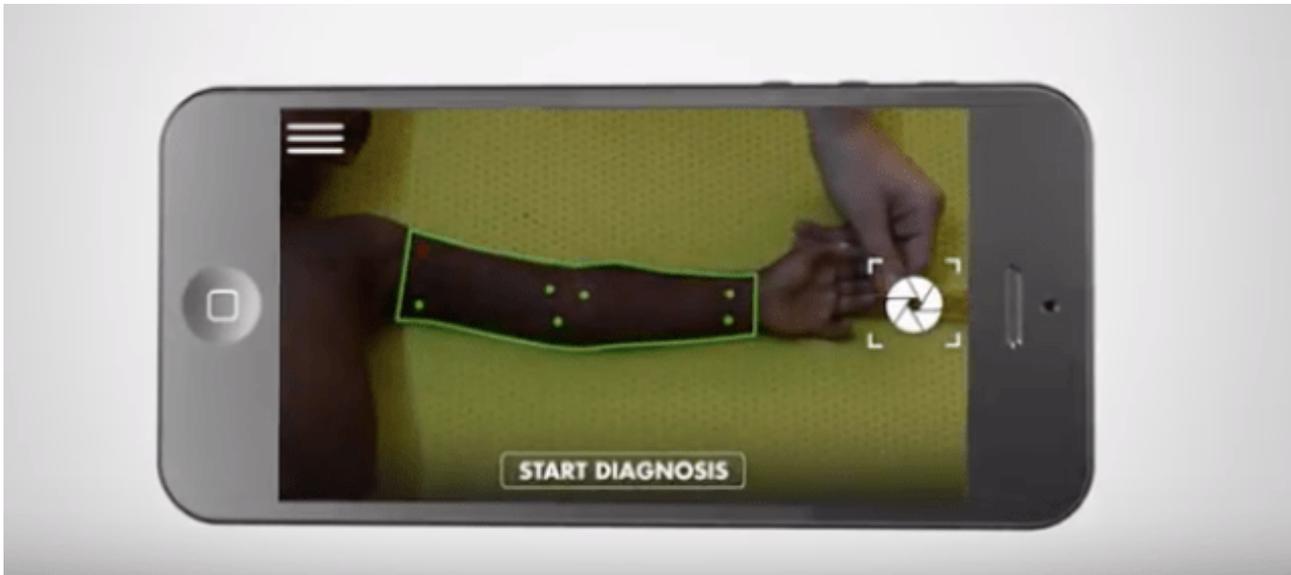
Research Linking Unconditional Cash Transfers & Nutrition: A total of four rigorous evaluations on the impact of cash-based initiatives on the prevention of acute malnutrition have been led by Action Against Hunger - more than any other organization in this sector. Under the [Research on Food Assistance for Nutritional Impact](#) (REFANI) project we conducted cRCTs in Sindh, Pakistan, and Tahoua, Niger, as well as a non-randomized controlled trial in Mogadishu, Somalia. Our study design in Pakistan was benchmarked against the Benazir Income Support Program, and therefore contributed directly to better understanding nutritional impacts within this social protection program. Results for each country study have been published (for the Pakistan [effectiveness](#) and [cost-effectiveness](#) studies, as well as the [Niger](#) and [Somalia](#) effectiveness studies) and a [synthesis of findings](#) across studies has also been created to identify global implications of these findings across contexts. Finally, Action

Against Hunger has also conducted complementary research in this space, including the [MAM'Out study](#), which further explored cash/nutrition effects under a cRCT design in Tapoa, Burkina Faso.

Identifying the Prevalence of and Risk Factors for Relapse After Recovery from Severe Acute Malnutrition: This \$2.1 million multi-country, prospective cohort study funded by USAID/OFDA aims to better understand issues related to relapse after successful treatment of severe acute malnutrition (SAM) in a community-based management of acute malnutrition (CMAM) programs. In, Chad, Mali, Somalia, and South Sudan, Action Against Hunger will follow over 2,400 children (aged 6-59 months) for one-year after recovery from SAM to quantify relapse rates and identify potential risk factors for relapse. Action Against Hunger will also conduct mixed-methods process evaluations on the CMAM programs and conduct costing analyses to understand programmatic and costing implications of SAM relapse. Lastly, in partnership with the London School of Hygiene and Tropical Medicine, biological samples will be collected to identify how child infections and environmental contamination is associated with SAM relapse. This study is truly the first of its kind, with results expected to contribute towards a standardized relapse definition and methods for measuring and reporting relapse globally.

Innovations in Detecting & Diagnosing Acute Malnutrition: Action Against Hunger has led the [Click-MUAC](#) project, developed in partnership with University of Tampere, Brixton Health and Humanitarian Innovation Fund. This study [demonstrated](#) that not only can mothers measure the mid-upper arm circumference (MUAC) of their own children, they can do it comparatively well to professionals with the standard uni-MUAC tape. Based on this evidence, Action Against Hunger also conducted an operational pilot in Kenya, which confirmed similar results using an even further simplified version of the uniMUAC tape (centimeter scale was removed, tape was shortened) and also indicated that the use of the simplified tape may have also led to earlier detection of moderate acute malnutrition (MAM). Beyond this work, Action Against Hunger is also in process of refining our [SAM Photo](#) app, which uses an innovative image-based diagnosis model for acute malnutrition, integrated in an easy-to-use mobile phone application that allows for effective and simple diagnosis at the household and/or community-level.

Figure 2. SAM Photo smartphone app prototype, containing the models and algorithms created under the first phase of the project (published via peer review [here](#)).



Simplified Approaches to Treatment of Acute Malnutrition: Less than 1 out of 3 children affected by SAM are able to access the life-saving treatment they require. In an effort to boost coverage, Action Against Hunger has led efforts to test the integration of treatment of acute malnutrition into the integrated community case management (ICCM) platform through a series of operational research studies across multiple countries and contexts. In partnership with the African Population and Health Research Center, Save the Children and the International Rescue Committee (IRC), we are currently implementing the [Implementation Research on Linking the CMAM and ICCM](#) project in Kenya, with results expected to be published later in 2020. Further, the [C-Project](#) (which included the generation of evidence across Mali, Pakistan, Kenya, Niger, and Mauritania), demonstrated that community

health workers can diagnose and treat SAM as part of the ICCM package, which has led to testing of this approach at-scale in three districts in Mali.

Further work, in partnership with IRC, includes the [Combined Protocol for Acute Malnutrition Study \(ComPAS\)](#), which aimed to examine whether a simplified and unified MAM and SAM treatment for children 6–59 months would improve coverage, quality, continuity of care and cost effectiveness in resource constrained settings. ComPAS tested these simplified protocols, with a reduced dosage of RUTF, through a cluster randomized control trial in both Kenya and South Sudan. Results, which will be published in 2020, will be used to influence practice and policy, particularly in high burden settings where health systems are often overburdened and unable to support the current dual service delivery model. Beyond ComPAS, Action Against Hunger also led the [Modelling an Alternative Nutrition Protocol Generalizable to Outpatient Care \(MANGO\)](#) study, which aimed to measure the effectiveness and cost-effectiveness of a reduced RUTF dosage on treatment outcomes for children 6-59 months with SAM in Eastern Burkina Faso. Results from this study have just recently been published [here](#) and [here](#), indicating that the reduced dosage does not have any negative effect on weight or MUAC gain velocity, recovery or treatment time, while more research is needed to explore potential effects on linear growth, especially among the youngest children treated in these programs.

Research Linking WASH & Nutrition: In the [Effectiveness of Safe Drinking Water In SAM Treatment study](#) in Pakistan, Action Against Hunger tested three household water treatment technologies to investigate whether adding safe drinking water within CMAM treatment improves recovery rates and the cost-effectiveness of these programs, relative to the technology used. Findings confirmed that water treatment products can be an effective method for improving nutritional treatment outcomes in CMAM programming, and more specifically, that Aquatabs were the least expensive treatment per child recovered.