MERIAM

Modelling Early Risk Indicators to Anticipate Malnutrition

What is the problem we are trying to solve?

- ➔ Decision-makers lack timely, evidence-based information on acute malnutrition that would allow them to act ahead of a crisis, rather than during or after its peak

How does MERIAM address the problem?

- ➔ MERIAM investigates how to most effectively and usefully anticipate acute malnutrition using openly accessible secondary data.
- ➔ We provide transparent, objective and data-driven analysis that identifies leading indicators of variation in the risk and prevalence of acute malnutrition.

What advancements does MERIAM provide?

MERIAM offers a number of state-of-the art advancements, including:

- ➔ Deployment of two complementary modelling approaches, with different points of emphasis (e.g. multi-level and mechanisms) and levels of granularity (e.g. broad and localized), as well as the potential for cross-validation, where the approaches cover the same spatio-temporal domain.
- ➔ A way to account for (a) sub-national variation, through the conscious selection of cases that adjudicate between specificity (depth) and generalizability (breadth); and, (b) temporal dynamics, through identification of leading indicators and the extent of that lead-time for early warning purposes.
- ➔ Consideration of dynamic processes, including the role of conflict and climate-related shocks, with a view toward understanding the factors that may enable or impede resilience
- ➔ A credible strategy for maximizing the future use and longevity of these advancements, through engagement with end-users to create user-centered outputs.

ACTION AGAINST HUNGER

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	MERIAM IS…	MERIAM IS NOT…
OUTCOME	Looking at child acute malnutrition - wasting at the individual level (through weight-for-height Z-score) and population level (through prevalence)	Looking at child acute malnutrition using anthropometric indicators (e.g. MUAC) or in terms of global acute malnutrition (as this would require edema)
DATA	Using secondary, openly accessible data from a variety of sources	Collecting primary quantitative data on our dependent or independent variables
PREDICTION	Testing relationships, looking at mechanisms and dynamics to unpack possible pathways	Data mining or making broad assumptions about relationships that are unfounded in the existing evidence base
TIME-SCALE	Identifying which time-scales are reliable for forecasting of acute malnutrition	Identifying which indicators of acute malnutrition are 'leading' at a particular time-scale
THRESHOLDS	Using a continuous dependent variable to map onto existing frameworks with confidence levels, realizing the significance of change is context-specific and stakeholder-dependent	Only explicitly establishing significance of change around existing humanitarian thresholds
APPROACH	Employing a complementary, mixed-method approach using econometric and computational approaches, as well as quantitative and qualitative data across a variety of geographic cases	Putting all our eggs in one basket around a single approach, method, context, etc.