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The Wasting and Stunting Technical Interest Group

Phase 5 workplan (2023- 2025)

Introduction

In 2023, the WaSt TIG enters its 9th year of work with much evidence generated since the original impetus for the creation of the group, which was to explore the separation between wasting and stunting in programmes, policy and research and question whether this is empirically justified. To date, the group has focused on understanding the physiological, biological and epidemiological relationships between these two forms of undernutrition and has centred its work around three objectives:

1. To continue to **generate evidence** to increase the understanding of the relationship between wasting and stunting and what this tells us about their aetiology, consequences, treatment and prevention.
2. To **translate the implications of the evidence for policies and programmes** to better meet the needs of national and global actors.
3. To further **influence the research agendas** of donors, academia and implementation research-focused agencies.

In June 2022, members of the WaSt TIG convened for a series of meetings to take stock of the work so far, explore the continued relevance of the WaSt TIG and it's objectives. Members felt that there was still a need for the WaSt TIG and that there were still some evidence gaps to fill, but that an increased focus on translating our findings for programme and policy relevance, particularly for country and regional practitioners and policy makers through closer engagement was needed. Three separate meetings focused on priorities under each of the objectives including discussion of natural evolutions from the work so far. These ideas were further articulated and then prioritised by the group via a survey prior to the development of this workplan which reflects those prioritisation results. We have grouped our priority activities into three broad themes; further understanding risk and related implications for treatment models, deepening our understanding of the drivers of wasting and stunting to inform prevention strategies and, broadening our reach.

1. Understanding risk and implications for treatment models.

a. Further exploring non-response and recovery definitions in high risk children.

In phase 4, we explored how children with severely low weight-for-age (WFA -3 z scores) and wasting respond to treatment through an analysis of a pooled programme dataset¹. This work highlighted the value in further understanding recovery in these high risk children and underlined the importance of further intervention study. In phase five, we wish to deepen our understanding by further analysing non-response and the appropriateness of existing definitions of non-response and recovery. This will be done using the existing pooled programme datasets to explore the characteristics and timeframes of non-response in different groups of children (including in different age groups), and the validity of expectations for all children to recover their anthropometry in a defined time period (16wks). This work will add to the growing evidence-base and help to inform appropriate treatment protocols/ classifications of recovery and non-response.

¹ Odei Obeng-Amoako et al 2023. <https://pubmed.ncbi.nlm.nih.gov/36262055/>

b. Moderate wasting and risks of death and deterioration.

In order to broaden our understanding of risk, we will analyse two contemporary datasets of untreated children with MAM; pooling data from Sierra Leone and Ethiopia (and others if available), to explore this topic. We will explore risk factors for death and deterioration to severe wasting and also consider outcomes and growth trajectories beyond the current timeline of non-response. The findings will aim to inform current MAM treatment protocols and approaches to tackling wasting. This work will also explore complementarity with work currently being undertaken by WHO to further analyse risk factors for wasting.

c. Supporting implementation of the WaSt study.

Evidence generated by the WaSt TIG on the relationship between wasting and stunting and their combined impact on mortality, has important implications for programming approaches, particularly the potential of using a weight-for-age (WFA) indicator (<-3 z scores) alongside low MUAC, to identify children, at high risk of death, for treatment. Although WFA has been eclipsed in recent years by separate measures of wasting and stunting, it has remained in use in many child health and growth monitoring and promotion systems and has also emerged as a key indicator of mortality risk for infants. This provides an opportunity and incentive to test how WFA may be usefully and cost-effectively re-integrated into treatment programme approaches and services (e.g. CMAM) focussed on achieving impacts on child survival and development. A study protocol for the first stage of the research, a cohort study, to test the intensity, duration of treatment, and discharge criteria appropriate for children identified using WFA < -3 and MUAC < 115mm was published online in 2021². In our fifth phase of work, the WaSt TIG will explore potential collaborations to implement this research in which the group would take on an advisory role, working closely with a study implementing organisation.

d. Going beyond mortality risk: Literature review and exploration on wasting and stunting and risk of cognitive/other functional outcomes.

To date, the WaSt TIG has developed a large body of evidence related to better understanding mortality-related outcomes of wasting, stunting and concurrence. In this next phase of work, the WaSt TIG will aim to explore broader health outcomes such as illness episodes, neurodevelopment and other functional and cognitive outcomes to further understand implications for treatment rationales/approaches. As a first step to understanding this topic, a literature review of evidence will be undertaken and based on findings, areas of exploration may be further developed for the next phase of the WaSt TIG's work.

2. Deepening our understanding of drivers of wasting and stunting to inform prevention strategies

a. Exploring the pathways that make individual children more vulnerable to wasting and stunting

Building on the concept note³ developed in phase 4 which described research gaps in relation to the pathways leading to wasting, stunting and concurrent wasting and stunting, we will seek out opportunities for research collaboration, to (ideally using existing cohorts) answer the questions posed. These questions aim to understand: (1) The association between a child's inflammatory, metabolic, and/or microbiome profile and his/ her growth trajectory; (2) Maternal determinants as drivers of infant and child growth trajectories. The aim will be to use data to explore individual growth curves for children and to identify what happened to these children prior to their growth faltering. The design of the research and proposed methodologies will be further refined with research collaborators, once identified, and a WaSt TIG sub-working group. Due to clear shared objectives it will also link with ENN's work on Maternal Nutrition and MAMI. This work will aim to fill remaining knowledge gaps in what makes some children more vulnerable to experiencing wasting/stunting/concurrence so that we can better identify optimal opportunities to intervene along that pathway, through a range of preventative interventions.

² <https://www.ennonline.net/newevidenceundernutritionmortality>

³ <https://www.ennonline.net/pathways-to-wasting-and-stunting>

b. Progressing prevention-capturing data driven examples of wasting and stunting trends and drivers

One of the key recommendations coming from the WaSt TIGs work to date on wasting prevention in the context of stunting prevention is the need to answer the question of what is missing in population-level stunting prevention packages (beyond widespread wasting treatment) to also prevent wasting. To fill this gap and to further understand the drivers of wasting and stunting and the implications for the design of prevention programming, we will develop and document data-driven examples, at a sufficiently localised level to allow the granularity of data required (sub-national level), of wasting and stunting trends tracking or diverging from each other, alongside information on delivery of services and key drivers, in order to better understand the overlap and divergence of drivers of wasting and stunting in different contexts and the implications for the design of prevention approaches.

Country case studies will take a mixed methods approach, using qualitative and quantitative methods to draw from cross-sectional and cohort data on trends and drivers of wasting and stunting, interviews and focus groups with national experts (identified and accessed through ENN's and the WaSt TIGs networks), and review of national policy and programme evolution related to nutrition. The specific methods will be further defined with the relevant WaSt TIG sub-working group and will result in standalone case studies as well as a synthesis targeted at a global audience and accompanied by a short plain language policy brief focusing on the policy implications of the findings for the development of coherent wasting and stunting prevention strategies for national and global level decision-makers.

This work will build on and link with the work of the Exemplars Group particularly their current work on wasting exemplars.

c. The cost of not preventing wasting

This activity will involve developing an evidenced case for the prevention of wasting that takes a broad view of the costs and benefits of prevention (beyond mortality reduction). The investment case will take into account evidence of the consequences (both short and long-term) associated with wasting (including stunting/linear growth faltering, subsequent wasting, obesity in adulthood), the costs of these consequences and the potential efficiencies of preventing wasting alongside stunting. The investment case will aim to highlight where there is evidence to make the case, where there are shortcomings in the evidence and what would be needed to fill those gaps. Stages may include:

- Scoping out what is needed. (What will fulfil the needs for a compelling case?)
- Develop a framework for wasting mapping out consequences of wasting through the lifecycle.
- Scoping out relevant data and evidence to make the case and highlighting gaps.
- Develop methodology, underpinning evidence and sources of data for modelling.
- Modelling the approach in 2 or more contexts.

d. Cost Effectiveness analysis on integrated strategies to prevent both wasting and stunting

Data on cost effectiveness is often old and piecemeal and the cost-effectiveness of integrated strategies to prevent both wasting and stunting have not, to our knowledge, been fully explored. Our work could help to strengthen existing cost effectiveness efforts and help in driving forward joint prevention and treatment strategies. This work will likely be done as a series of documented examples or a methods piece exploring what would be required to look at outcomes of both wasting and stunting. The specific methods for this piece will be further refined following the work exploring the cost of not preventing wasting (above) as well as following various conversations with the sub-working group of the GNC Technical Alliance Wasting Global Thematic Working Group exploring cost effectiveness for wasting treatment and prevention.

3. Broadening our reach

a. Communicating the relationship between wasting and stunting

To support countries to adopt an integrated approach to wasting and stunting, we will focus on tailoring the communication of the new findings from the group's work on WaSt to different types of stakeholders (including practitioners, policy makers, researchers and donors) through a variety of fora and languages. How to best achieve

this will be informed by the communications strategy developed during phase 4⁴. Tailored outputs may include webinar/brown bag or podcast discussions, infographics and summaries and/or other online fora as well as through our existing country and regional connections, aimed at maximising uptake and application of research findings. In order to ensure that the WaSt work continues to have relevance for policy makers and practitioners and the support models for countries are valuable, towards the end of this phase, we will conduct an evaluative survey with country-level actors to better understand the extent to which our support models are meeting needs and to explore areas of further support. These findings will help shape future work within the WaSt TIG.

Three potential communication briefs will be developed in Phase 5:

Communicating the evidence highlighted in published papers: We will continue our efforts to disseminate and promote the uptake and application of our WaSt findings to date (particularly those developed in phase 4) via a range of methods including podcasts/blogs on our media hub, via our en-net platform and Field Exchange publication.

Communicating why WaSt matters and what to do: Given the crowded nutrition space at the moment, it is useful to keep speaking to the work of the group while at the same time ensuring that we highlight what new elements we have to add to ongoing conversations in the nutrition space. This could be in the form of high-level briefs or talking points for decision makers (potentially tied around key events), equipping them with a holistic set of messages around looking at wasting and stunting together and going beyond wasting treatment.

Explaining vulnerability and related prevention strategies: The work of the group to date has highlighted a number of considerations around vulnerabilities linked to the relationship between wasting and stunting (e.g. periods of wasting leading to more wasting, wasting leading to stunting) that go beyond mortality. The need to communicate these findings more widely was highlighted as a priority during Phase 5 development meetings. This brief will building on the prevention work in Phase 4 and potentially some of the Phase 5 activities (e.g. Pathways and Progressing prevention) unpacking our findings for a non-technical audience. It will highlight the necessity of acting to prevent wasting and stunting before children reach these points of malnutrition and what we know about that prevention. As a first step to this piece, we will obtain feedback on the previously published 'Best Practices on the Prevention of Wasting the wider context of Undernutrition' to explore what is missing and what is further needed from a follow-on brief.

b. Mapping ongoing/existing cohorts

To inform work under our evidence generation objective, it would be valuable to map out ongoing and existing cohort datasets that could be utilised for analysis. This work will include the collation of existing/ ongoing datasets as well as potentially exploring protocols for trials and cohorts that are planned and how the WaSt TIG can influence data collection to examine both wasting and stunting. We will map datasets that are already known by the WaSt TIG, conduct a literature review of other available datasets, and/ or review of relevant published protocols. We would likely need to narrow down the datasets by some key exposures and outcomes, so a starting point we will use the pathways piece concept note as a guide for setting the scope. We will also try to map birth cohorts as part of this work, including what is being measured in each cohort to identify opportunities to integrate WaSt related analyses.

c. Mapping potential conferences to share/showcase our work

To further influence research, we will explore and map out relevant meetings, conferences or social media that may be appropriate for members of the WaSt TIG to share the group's work. A more strategic plan to engage in conferences will support in broadening the reach of the WaSt TIG.

⁴ [WaSt communications final.pdf](#)

Annex 1. Sub Working Groups and activities under each

SWG	Activities
WaSt Implications for Treatment SWG (existing WaSt study/response to treatment SWG)	<p>1.a Exploring non-response and recovery definitions. <i>Design/interpretation/write-up</i></p> <p>1.b Moderate wasting and risks of death and deterioration. <i>Design/interpretation/write-up</i></p> <p>1.c Supporting implementation of the WaSt study: <i>Advisory role in design and implementation.</i></p>
Beyond mortality risk SWG (new)	1.d Going beyond mortality risk: <i>Support for literature review and development of next steps</i>
Pathways SWG (existing)	2.a Exploring the pathways: <i>Advisory role on analysis or potential study design</i>
Progressing Prevention SWG (new)	2.b Progressing prevention: <i>Design of methodology, interpretation, write-up</i>
Cost effectiveness SWG (new)	<p>2.c The cost of not preventing wasting: <i>Advisory group for investment case development</i></p> <p>2.d Cost effectiveness of integrated strategies: <i>scope and methodology development</i></p>
Broadening our Reach	This work will be led by ENN drawing on individual members of the WaSt TIG/authors of specific outputs accordingly and feeding back to the full group.