A STATEMENT FROM THE COUNCIL OF RESEARCH & TECHNICAL ADVICE ON ACUTE MALNUTRITION (CORTASAM)

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BACKGROUND

Malnutrition is estimated to contribute to upwards of half of all child deaths[i] and **children with acute malnutrition are three to nine times more likely to die than well-nourished children**[ii, 1]. In recent years, we have witnessed a scale-up of the community-based management of acute malnutrition (CMAM). This approach is safe, cost-effective, and evidence-based for the management of acute malnutrition[iii,iv]. And yet, we continue to fail to reach those in most need, with less than 20% of children with acute malnutrition, both moderate and severe, receiving treatment[v,vi,2].

The No Wasted Lives Coalition was formed in 2016 to accelerate the scale-up of effective prevention and treatment of acute malnutrition. The Council of Research & Technical Advice on Acute Malnutrition (CORTASAM) is an independent group of experts that provide technical guidance to No Wasted Lives. The goal of the Council is **to drive the use of evidence for action, in order to ultimately reach more children with effective treatment and prevention programmes across the continuum of acute malnutrition**. This will catalyse progress towards the Sustainable Development Goal to reduce wasting to <5% amongst children under five years of age.

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I II *Black et al. Maternal and Child Undernutrition: global and regional exposures and health consequences. The Lancet. 2008; 371: 243-260.*
III *Collins et al. Management of severe acute malnutrition in children. The Lancet. 2006; 368: 1992-2000.*
IV *Collins et al. Key issues in the success of community based management of acute malnutrition. UN Food & Nutrition Bulletin. 2005.*
V *Annual Results Report 2016 Nutrition. UNICEF. 2016.*
VI *The Year in Review Report 2016. World Food Programme. 2016.*

1 *Odds ratio for mortality in children with severe acute malnutrition is 9.4 (5.3 – 16.8) based on WHZ <-3 z-score. Odds ratio for mortality in children with moderate acute malnutrition is 3.0 (2.0 – 4.5) based on WHZ -3 to -2 z-score.*
2 *3.4 million children received treatment for SAM (source: UNICEF 2016) and 9 million children received prevention and treatment of malnutrition in 2016 (source: WFP 2016).*
3 *The survey focused primarily on research supporting the treatment of acute malnutrition. Where specifically linked with treatment (ie. treatment of MAM or infants to prevent SAM or later nutritional vulnerability), prevention was also included. Preliminary findings and further publications available at* www.nowastedlives.org

USE OF MUAC IN THE COMMUNITY:
RECOMMENDATION FROM CORTASAM

Based on a review of the evidence, CORTASAM supports the following recommendation. This recommendation builds on existing global guidance and consensus and is aimed to encourage immediate action and use of the growing evidence-base in this sector:

Mid-upper arm circumference (MUAC) should be used as the primary tool for the detection, diagnosis, and discharge of acute malnutrition in children 6–59 months of age in the community.

This recommendation is in line with the WHO guidelines[vii] that recommend the use of MUAC and examination for bilateral pitting oedema in children 6-59 months of age by trained community health workers and community members for early identification and referral of children with severe acute malnutrition (SAM) for full assessment at a treatment centre. WHO recommends that children 6-59 months of age with a MUAC <115mm **OR** a WHZ <-3 z-score or have bilateral oedema should be admitted into a treatment programme.

A consultation on MUAC and WHZ in 2012[viii] concluded that **the primary objective of SAM management is to identify and treat SAM children most at risk of short-term mortality**. It recognised that MUAC and WHZ identify different children. However, MUAC appears to be the better predictor of mortality and has practical advantages. The consultation recommended that MUAC should be the primary indicator used in active case finding efforts in the community and health facilities. Where a child is not identified as SAM by MUAC, WHZ should be used where it is available and feasible to do without jeopardizing other essential health services. At facility level, WHZ should be measured in particular where there are relevant clinical conditions and contextual risk factors for acute malnutrition specifically as well as related to the double burden of malnutrition.

Since 2012, there has been increasing evidence on the use of MUAC for detection by mothers and caretakers in the community, demonstrating they can effectively detect acute malnutrition and children at high risk of mortality [review pending publication]. This approach has the potential to improve active case finding and earlier treatment resulting in reduced severity of acute malnutrition and should be promoted. While further research is needed across contexts, recent research has demonstrated the advantage of use of MUAC for discharge to eliminate the effect of shorter treatment, based on percent weight gain, in the most severely malnourished children[ix].

Given this, CORTASAM has issued the recommendation, consistent with WHO 2013 guidelines and the 2012 consultation, that MUAC should be used as the primary tool in the community for the detection, diagnosis, and discharge of acute malnutrition in children 6-59 months of age. In doing so, CORTASAM recognises that the current MUAC admissions criteria for SAM, MUAC <115mm, does not select for all high risk children, including some children diagnosed as SAM by WHZ, or WAZ, and the optimal approach will vary across different contexts. More research is needed to identify different options to identify these high risk children and ensure successful diagnosis and treatment.

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VII *Guideline: Updates on the management of severe acute malnutrition in infants and children. World Health Organization. 2013.*

VIII *A consultation of operational agencies and academic specialists on MUAC and WHZ as indicators of SAM. Field Exchange. 2013; 45: 34. Available from:* www.ennonline.net/fex/45/consultation

IX *Dale et al. Using MUAC to end treatment of SAM leads to higher weight gains in the most malnourished children. PLoS ONE. 2013, 8(2): e55404. Available from:* https://doi.org/10.1371/journal.pone.0055404

CONCLUSION

In releasing this Recommendation and Research Agenda (available to download at www.nowastedlives.org/researchagenda), it is the aim of CORTASAM to provide clear recommendations where the growing evidence-base supports immediate action and where further research against outstanding priority actions is required.

Together, this will support the achievement of reaching more children with effective treatment and prevention programmes across the continuum of acute malnutrition.

In reviewing existing guidance and the latest available evidence, CORTASAM recommends that **mid-upper arm circumference (MUAC) should be used as the primary tool in the community for the detection, diagnosis, and discharge of acute malnu-trition in children 6-59 months of age in the community**. With this recommendation, more children can be detected and diag-nosed for effective treatment. Coupled with this recommendation is the recognition that there are critical outstanding questions that need to be further researched to investigate the safety, effectiveness, and operational implications.

This statement has been written and endorsed by the members of the Council of Research & Technical Advice on Acute Malnutrition (CORTASAM)[4]:

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