PREVENTION, EARLY DETECTION AND TREATMENT OF WASTING IN CHILDREN 0–59 MONTHS THROUGH NATIONAL HEALTH SYSTEMS IN THE CONTEXT OF COVID-19

Implementation Guidance

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Contact Information:

Nutrition Section, Programme Division, UNICEF nutrition@unicef.org. UNICEF publications are available at www.unicef.org/reports.

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BACKGROUND

Children who suffer from wasting and/or bilateral pitting oedema are up to 12 times more likely to die from common illnesses than children who are not wasted. As the COVID-19 pandemic affects many countries with fragile health systems and countries affected by a humanitarian crisis or severe food insecurity, wasted children should be prioritized as a vulnerable group.

To reduce the number of children becoming wasted, all levels of health services must deliver coordinated actions that reduce infection, improve maternal nutrition and birthweight, ensure appropriate breastfeeding and complementary feeding and care practices in the first two years of life, and facilitate the early detection of child wasting. In doing so, every effort should be made to reduce exposure to COVID-19 for children, caregivers and health workers, while ensuring continuity of these critical prevention and treatment services throughout all stages of the response. This will require efforts to adapt nutrition services based on the phase of the pandemic, to ensure the safety of routine services and minimize exposure and the risk of infection. In contexts where health systems experience partial or full closures or where there is a high level of community transmission, temporary adaptations may be required to ensure that children receive the support they need. Preventing the disruption of essential nutrition services remains key to limiting the burden of morbidity and mortality from this preventable and treatable condition.[1]

SCOPE AND PURPOSE

This document serves as a tool for implementing the recommendations reflected in existing WHO and UNICEF guidance on the **delivery of services through national health systems for the prevention, early detection and treatment of child wasting in the context of COVID-19.** This note reflects broad **guidance for all levels of the health system, including community health services** that offer prevention, early detection and treatment services for child wasting. WHO and UNICEF recognize that context-specific adaptations to these recommendations will be necessary depending on transmission levels, population mobility restrictions, resources, and other national public health measures to respond to and mitigate the effects of the pandemic across different countries. This note therefore offers specific examples of programmatic changes or adaptations that may be temporarily introduced to ensure the continuity and safety of prevention and treatment services. Child wasting is significantly impacted by household food insecurity, and for many food insecure populations, food-assistance programmes are critical to prevention efforts; however, such services and their delivery in the context of COVID-19 are addressed in other guidance notes.[2]

SECTION 1.

PREVENTION OF WASTING THROUGH NATIONAL HEALTH SYSTEMS DURING COVID-19

The COVID-19 pandemic has affected the preventative routine services across primary and community health services in different ways across different contexts. With a relatively limited COVID-19 caseload, health systems in some low and middle income countries may have the capacity to maintain routine service delivery that helps prevent child wasting. When caseloads are high, or when the health workforce is reduced due to the infection of health workers, strategic shifts are required to ensure that increasingly limited resources provide maximum benefit for a population.[3]

To prevent child wasting, all efforts should be made to sustain any and all services that: a) improve child health; b) improve maternal nutrition and birthweight; c) protect, promote and support adequate infant and young child feeding, and; d) identify and intervene early with nutritionally at risk infants under 6 months. Some of the services that health systems should sustain are listed below, including specific steps that should be considered in the context of COVID-19.

Table 1. Key considerations for the delivery of health services to prevent child wasting in the context of COVID-19

OUTCOME
Improve child health
HEALTH SERVICES
• **Sick child acute care visits (common childhood illnesses)** • **Child well-being, including growth and developmental monitoring and counselling** • **Management of preterm and low birthweight newborns**
CONSIDERATIONS IN THE CONTEXT OF COVID-19
• Modify assessment protocols[4] to include COVID-19 screening, while taking necessary infection prevention and control (IPC) measures.[5] • Maintain all acute care services for children with continued recognition of immediate needs for suspected COVID-19 cases and with referral processes adapted as needed.[6] • Consider postponing routine well-child visits for children >6 months while planning for catch-up activities, ensuring messaging to the community is clear that if a child is sick, he or she must be brought to be assessed and treated. • Integrate growth and development monitoring, counselling and support for nutrition (including special attention to support for breastfeeding and complementary feeding), screening for abuse and the mental health of the child and caregiver, and counselling for the caregiver about responsive caregiving, into every contact with health services, including immunization visits.[7] • Maintain routine immunization but modify sessions to eliminate risk of infection transmission. For examples, see *Maintaining health services in the context of COVID-19* (WHO 2020). • Undertake a systematic decision-making process to assess the risks and benefits of implementing mass vaccination campaigns (both preventive and outbreak response) with the active engagement of local oversight bodies, such as national immunization technical advisory groups. • Malaria: Early diagnosis and treatment are critical to prevent mild cases of malaria from progressing to severe illness or death. Public health messaging will need to be adapted to ensure that caregivers do not delay seeking care for febrile illness. Mass drug administration (MDA) is another preventive strategy recommended by WHO to reduce malaria rapidly during epidemics and in complex emergencies. The delivery of large-scale, high-coverage MDA, coupled with expanded and well-timed vector control strategies, should be considered as an exceptional measure during the COVID-19 pandemic. Insecticide-treated net (ITN) campaigns and indoor residual spraying: Shift planning and budgeting to a single-phase door-to-door ITN distribution strategy, leaving ITNs at the door. For more examples, see *Maintaining health services in the context of COVID-19* (WHO 2020). • Consider using digital solutions to communicate key messages to protect children and promote healthy growth and development. • At health facilities, ensure that caregivers providing kangaroo mother care (KMC) are trained in IPC and have personal protective equipment (PPE). • Develop strategies to enable support to continue KMC in the home. • Consider early discharge with clearly defined follow-up at health contact points for stable preterm or low birthweight newborns receiving KMC when breastfeeding (or another safe method of replacement feeding if breastfeeding is not possible) is ensured and adequate weight gain is being observed.

OUTCOME

Improve maternal nutrition and birthweight

HEALTH SERVICES

- **Delivery of eight ANC contacts according to national guidelines**

CONSIDERATIONS IN THE CONTEXT OF COVID-19

- Where comprehensive facility-based services are disrupted:
  * Prioritize antenatal care (ANC) contacts for low-risk pregnant women during the third trimester, and for all pregnant women who are assessed as high risk, including women with comorbidities, adolescent girls, and other vulnerable groups; as well as those who are underweight, overweight, or at risk of common maternal mental health conditions.
  * Ensure that birth preparedness and complication readiness plans are adapted to take into account changes to services.
  * Where feasible, use digital platforms for counselling and screening, including for danger signs.
  * Schedule ANC visits to reduce overcrowding and plan to provide all relevant care in a single visit closer to the community, whenever possible.
  * Prioritize risk assessments for conditions known to increase in the COVID-19 context, including tobacco, alcohol and other substance use; common mental health conditions (e.g., anxiety, depression); and gender-based violence.
  * Where coverage and care-seeking have declined, ensure targeted outreach strategies (e.g., counselling, monitoring of danger signs, etc.) are implemented in line with IPC measures.
  * Plan for the catch-up of missed ANC contacts, including delivery of tetanus toxoid–containing vaccines, and HIV and syphilis testing. Establish mechanisms for ensuring continued early delivery of missed contacts or content.
  * Plan for the catch-up of incomplete home-based records.
  * Where ANC or postnatal care contacts are reduced, provide 2–3 months of recommended supplements per visit (iron and folic acid supplements and calcium supplements in ANC; iron and folic acid supplements in PNC).
  * Prioritise follow up for LBW infants that includes breastfeeding support as well as infant health care and maternal well-being.
- Where food distribution is significantly interrupted and/or in populations with a high prevalence of nutritional deficiencies, the use of multiple micronutrient supplements that include iron and folic acid may be considered for pregnant and lactating women.
- Among undernourished populations, provide balanced energy and protein dietary supplementation to pregnant women.
- If ANC or PNC visits have been missed and supplementation interrupted, screen for maternal haemoglobin concentrations upon return to the clinic and treat cases of anaemia.

OUTCOME

Improve infant and young child feeding

HEALTH SERVICES

- **Promote breastfeeding and support new mothers to start breastfeeding**

CONSIDERATIONS IN THE CONTEXT OF COVID-19

- All mothers of newborn infants, including those with suspected or confirmed COVID-19, should be encouraged and supported to initiate and continue exclusive breastfeeding. From the available evidence, mothers should be counselled that the benefits of breastfeeding substantially outweigh the potential risks of transmission[8].
- Mothers should not be separated from their infants unless the mother is too sick to care for her baby. If the mother is unable to care for the infant another competent family caregiver should be identified. The mother-infant pair should be reunited as soon as possible.
- Early and uninterrupted skin-to-skin contact between mothers and infants should be facilitated and encouraged as soon as possible after birth, while applying necessary measures for IPC. This is especially important for infants who are born preterm or with low birthweight.
- Ensure physical and mental health support is available to mothers with/suspected COVID-19 to continue to breastfeed, especially for low-birth weight, pre-term or nutritionally at-risk infants.
- If the mother is too unwell to breastfeed or express breastmilk, explore the viability of feeding with donor human milk. If this is not possible, consider wet nursing (i.e., having another woman breastfeed the child) or appropriate breastmilk substitutes (BMS), informed by feasibility, safety, sustainability, cultural context, acceptability to the mother, and service availability.[9]
- Work in close collaboration with health team management at all levels to prevent BMS donations to health facilities and health workers. The COVID-19 pandemic highlights the need for stronger legislation to protect families from false claims about the safety of BMS and aggressive marketing practices.

OUTCOME

Improve infant and young child feeding

HEALTH SERVICES

- **From 6 months of age, breastmilk should be complemented with a variety of adequate, safe and nutrient-dense foods. Breastfeeding should continue up to 2 years of age or beyond.**

CONSIDERATIONS IN THE CONTEXT OF COVID-19

- Strengthen the capacities of frontline workers (health, community and other resource persons) to counsel caregivers using infant and young child feeding (IYCF) counselling tools in the context of COVID-19, and – when possible – nutrition videos on feeding age-appropriate, diversified and safe foods to young children, especially during and after illness.
- Improve access to nutritious food choices and counselling through health programmes and services, especially for the most vulnerable, including by integrating the provision of vitamin and mineral supplements, including multiple micronutrient powders, to improve the quality of young children's diets through health platforms.
- Identify and act on violations or non-compliance with existing food environment regulations (e.g., marketing restrictions) and avoid distributing or promoting unhealthy foods as part of any service delivery through health systems, including emergency response.

OUTCOME

Improve infant and young child feeding

HEALTH SERVICES

- **Vitamin A supplementation for children aged 6–59 months as per national policy**

CONSIDERATIONS IN THE CONTEXT OF COVID-19

- If there are disruptions in routine child health visits, vitamin A supplementation may be delayed or integrated with other programmes, such as immunization.
- Catch-up vitamin A supplementation campaigns may be needed and can be integrated with other programmes, such as immunization. If disruptions are prolonged, monitor children for eye symptoms of vitamin A deficiency.
- Strengthen health worker capacities to distribute vitamin A supplementation through routine health system contacts (e.g., immunization) alongside infection prevention and control.

The health and nutrition services listed above are especially critical during the 1,000 day window of opportunity from conception, through infancy, until a child's second birthday. However, they remain vital throughout the entire lifecycle. **Supporting health services that can achieve these results is therefore critical in the context of COVID-19.**

SECTION 2.

EARLY DETECTION AND TREATMENT OF CHILD WASTING THROUGH PRIMARY AND COMMUNITY HEALTH PLATFORMS DURING COVID-19

The early detection and treatment of child wasting should feature as part of all COVID-19 response plans for children. The modalities of making this service available and accessible are dependent on the local status of the COVID-19 epidemic and the national health system capacity. First and foremost, every effort should be made to ensure service continuity within national response plans, protecting both health staff and service users. The ability of health systems to provide safe continuity of services, however, may be disrupted. Potential disruptions include (but are not limited to):

- Partial or full closure of primary health care facilities
- Lack of appropriate PPE in health facilities, including those that serve as stabilization centers

- Lack of access to soap, water and/or disinfecting solutions in health facilities to ensure safety and hygiene of equipment
- Lack of COVID-19 screening or triage at the health facility entrance, which may inhibit trust in the healthcare system
- Repurposing of the health workforce for COVID-19 cases, meaning the usual services are not available
- Suspension of community-level visits and screening by community health workers
- Reduced capacity in health facilities that serve as stabilization centers due to bed spacing and IPC measures
- Reduced access and use of health services due to population movement restrictions, and deteriorated healthcare-seeking behavior due to fear of transmission.

These disruptions may require the introduction of temporary adaptations to ensure access to treatment services. Where services need to be temporarily adapted, national governments and ministries of health should be supported to make context-specific adaptations to treatment protocols. In addition to the adaptation of nutritional treatment protocols, IPC procedures should be quickly put in place to ensure the safe use of nutrition services. Staff should be trained in IPC protocols, including maintaining physical distancing, hand and respiratory hygiene, cleaning and disinfection of equipment and environment. Personal Protective equipment should be provided to the health workers and supplies such as hand hygiene sanitizers and disinfectants made available at the service site. Screening and triage for COVID-19 should also be performed at health facilities to protect the facility (patients and health workers) and prevent transmission, allowing patients to continue safely accessing essential health services.

Where disruptions impede the safe delivery of services, the early detection and treatment of uncomplicated wasting may also be provided according to a simplified or modified approaches.[10] These temporary modifications should be put in place for as long as the context-specific disruptions and challenges that required their introduction are still present. **Table 2** describes some of the temporary programmatic adaptations that may be introduced.

Table 2. Recommended measures to ensure continuity and safety of routine services for the early detection and treatment of child wasting in the context of COVID-19

CONTINUITY AND SAFETY OF ROUTINE SERVICES	TEMPORARY PROGRAMMATIC ADAPTATION
In the context of COVID-19, the following actions are required to ensure the continuity of treatment services while reducing the risk of infection and protecting health workers, caregivers and children.	*In the context of COVID-19, the following programmatic changes or adaptations may be temporarily introduced to ensure the continuity and safety of treatment services.*
Early detection of child wasting	
• **At health facilities, continue screening for wasting using weight-for-height (WHZ), mid-upper arm circumference (MUAC) and bilateral pitting oedema in all child consultations where malnutrition is suspected,** limiting contact with multiple healthcare workers, and following strict IPC protocols. See Annex I for further considerations in the use of anthropometric tools.	• **Intensify efforts to ensure access to PPE and soap, water and/or disinfecting solutions to apply strict IPC measures while enabling continued screening for wasting using weight-for-height, MUAC and bilateral pitting oedema. Weight for Age (WAZ) may also be used to identify nutritionally at-risk infants under 6 months of age.** *If access to essential PPE and disinfecting solutions cannot be secured, then:* • **Reduce exposure by shifting to MUAC and bilateral pitting oedema only for anthropometric measurements in infants and children** and encouraging caregivers to measure MUAC and check for bilateral pitting oedema on their own child under the supervision (at a safe physical distance) of a health practitioner. MUAC tapes should also be disinfected after each use, or disposable tapes or personal child's tape should be used.
• **In the community, explore strategies to enhance participation and involvement in the early detection of child wasting.** Continue community screening for wasting by involving mothers or caregivers in measuring MUAC and checking for bilateral pitting oedema, as guided by the community health workforce[11] and following strict IPC protocols.	• **Adopt a 'reduced physical contact' approach to build the capacity of caregivers in measuring MUAC.** In the assessments: * The caregiver and child should sit in a designated area that is at least one-metre away from the community health worker (CHW); * CHWs should explain what MUAC tapes are, and the process and potential outcomes (color zones, oedema and related treatment protocols) before coaching and observing caregivers taking MUAC and checking for oedema; * CHWs should first demonstrate and explain how to take MUAC and check for oedema, repeating as necessary and using a doll and/or cylinder object to demonstrate from a one-metre distance; * Together with the caregiver, the CHW should interpret and discuss the result and the appropriate referral for treatment. * On contexts using MUAC for screening infants <6 months, special attention must be paid to correctly training caregivers on how to perform MUAC measurements and interpret these results.*

* There are currently no global guidelines on the use of MUAC for screening infants less than 6 month of age. WHO is reviewing existing studies as parts of the guideline development process on the prevention and management of wasting

CONTINUITY AND SAFETY OF ROUTINE SERVICES	TEMPORARY PROGRAMMATIC ADAPTATION
In the context of COVID-19, the following actions are required to ensure the continuity of treatment services while reducing the risk of infection and protecting health workers, caregivers and children.	*In the context of COVID-19, the following programmatic changes or adaptations may be temporarily introduced to ensure the continuity and safety of treatment services.*
Inpatient management of complicated child wasting	
• **Ensure adherence to IPC measures in stabilization centres and wards,** including enforcing staff sick leave policies, screening and triage procedures, identification of isolation areas, limiting contact with multiple healthcare workers, and strict cleaning protocols (e.g., disinfecting scales and MUAC tapes between measurements). Whenever possible, increase physical space to at least one-metre between beds in stabilization centres. Use separate patient areas for suspected/confirmed COVID-19 cases and non-cases. Services unable to procure commodities such as F-75/100 should follow existing alternative recommendations.[12]	• **Stabilization centres need to be supported so that they can adhere to and maintain IPC measures and ensure that health staff get the appropriate IPC training.** Treatment of children with medically complicated severe wasting needs to be prioritized. • Children with medically complicated severe wasting or bilateral pitting oedema who are suspected to have COVID-19 should be tested. Isolation is recommended for those who test positive according to national guidelines. • Breastfed infants under 6 months should not be separated from their mothers unless the mother is too sick to care for her infant. • More stabilization centres and malnutrition wards might need to be established. Children with moderate wasting with complications should be referred to the nearest pediatric ward for follow-up.

CONTINUITY AND SAFETY OF ROUTINE SERVICES	TEMPORARY PROGRAMMATIC ADAPTATION
Outpatient management of uncomplicated child wasting	
• **Ensure adherence to IPC measures in facility-based outpatient therapeutic services for uncomplicated severe child wasting,** limiting contact with multiple healthcare workers and following strict cleaning protocols. Measures could include: ensuring that wasting treatment services are available as routine service (i.e., every day of the week, mornings and afternoon); expanding waiting areas and shelters to ensure that clients can sit at least one-metre apart and avoid confinement; and temporary reduction or suspension of post-discharge follow-up visits.	• **Intensify efforts to ensure access to PPE and soap, water and/or disinfecting solutions to apply strict IPC measures while enabling continued screening for wasting using weight-for-height, MUAC and bilateral pitting oedema.** *If access to essential PPE and disinfecting solutions cannot be secured:* • **Reduce exposure by shifting to using MUAC and bilateral pitting oedema only (with IPC measures in place) for admission, follow-up and discharge,** encouraging caregivers to carry out MUAC and oedema assessments under the supervision (at a safe physical distance) of a health practitioner. Admission criteria should reflect national guidelines and protocols (e.g., <115mm). Services for children 6-59m can consider expanded admission thresholds (e.g., <120mm or <125mm) to maximise the inclusion of potentially vulnerable children, especially in contexts with no services for the management of moderate wasting. For infants under 6 months of age, the following MUAC thresholds may be used to identify nutritionally at-risk infants:** **<110mm** for infants 0-6 weeks (i.e. before first vaccination) **<115mm** for infants 7 weeks- 6 months • Infants identified as nutritionally at-risk (with no other medical complications) should be enrolled in a low-risk intervention (i.e. breastfeeding support, implementing Integrated Management of Neonatal and Childhood Illness (IMNCI), protocols and support for maternal wellbeing). MUAC should only be expanded to this age group where there is a clear and appropriate pathway of care in the community to manage cases identified.

** There are currently no global guidelines on the use of MUAC for screening infants less than 6 month of age. WHO is reviewing existing studies as parts of the guideline development process on the prevention and management of wasting

CONTINUITY AND SAFETY OF ROUTINE SERVICES	TEMPORARY PROGRAMMATIC ADAPTATION
Outpatient management of uncomplicated child wasting	
(cont.)	• For the children admitted in the treatment with weight-for-height z-score (WHZ) before the adaptation of protocols, they should be an exception and be discharged using WHZ. In the absence of weight measurements, ready-to-use therapeutic food (RUTF) dosage may need to be simplified using a ratio of two sachets/day for uncomplicated severe wasting and one sachet/day for uncomplicated moderate wasting as determined by MUAC or oedema status.[13,14,15,16,17,18] Any modification to MUAC admission criteria must consider the impact on overall admissions (inclusion of moderately wasted children) and corresponding commodity (e.g., RUTF) requirements, as well as implications for the treatment of medical conditions in moderately wasted children.
	• **Provide PPE, support and resources to the community health workforce to continue offering treatment for uncomplicated wasting,** if this has been adopted into national protocols or is supported by national health authorities.[19]
	• **Reduce the frequency of follow-up visits to bi-weekly/monthly** for children with uncomplicated severe wasting by increasing the take-home ration of RUTF and other nutrition commodities.[20] If all services are temporarily suspended, distribute RUTF/nutrition commodities for up to eight weeks. Whenever possible, establish links between these distributions to households and existing food security and social protection systems. For nutritionally at-risk infants under 6 months, prioritize infants at greatest risk (e.g. LBW) for closer follow up.
• **Ensure adherence to IPC measures in the management of moderate wasting,** limiting contact with multiple healthcare workers and following strict cleaning protocols. All relevant considerations for the safe continuity of services for the treatment of uncomplicated severe wasting should also be considered for the management of moderate wasting.	• **Adapt existing services for the management of moderate child wasting.** In contexts where national policies recommend nutrition counselling as the only approach for the management of moderate wasting, reduce the frequency of follow-up visits to bi-weekly/monthly. In contexts where moderate wasting is addressed through food supplementation services, consider reducing visit frequency (e.g. once per month) to monthly applying recommended IPC measures and avoiding any mass gatherings. Additional measures include (but are not limited to)[21]: * Allowing for personal space of a minimum of 1 meter between each user throughout the registration, waiting and treatment process * Organising and clearly marking allocated spaces at the treatment site * Setting up hand washing area/s with an adequate supply of hand wash solution and minimal manual contact during the handwashing process, for mandatory handwashing of beneficiaries prior to registration * Organising rations ahead of the scheduled visit so they can be quickly distributed * Cordoning off (with a rope or tape) a 1-2-meter radius around the desk at the collection point

SECTION 3.

STRENGTHENING SYSTEMS TO SUPPORT THE DELIVERY OF PREVENTIVE AND TREATMENT SERVICES FOR WASTING

As the pandemic progresses globally, health systems may no longer be able to meet the growing demand to prevent and treat child wasting. Measures should therefore be taken to ensure health systems are strengthened and supported during the pandemic. Health systems strengthening measures to support the provision of preventive and treatment services for child wasting include (but are not limited to):

Coordination and governance	• Ensure services for the prevention and treatment of child wasting and other essential nutrition interventions are included in the package of health and nutrition services that continue in the context of the COVID-19 pandemic, and that infants under six months are included in this package of care[22] • Integrate community-based nutrition into subnational and national service mapping. • Ensure the prevention and early detection and treatment of wasting are prioritized in strategic partnerships, and cluster and sector/intersectoral coordination of the COVID-19 response. • Set up a system to monitor service continuity that explicitly includes nutrition services and share results to trigger response, where and when needed. In doing so, explore possible country-specific tools that have been developed for this purpose.
Financing	• Protect funds previously earmarked for nutrition services from being re-allocated to other services, and whenever possible, increase financial resources for the prevention and treatment of wasting.
Health workforce	• Ensure that there are enough dedicated staff to support breastfeeding counselling support to mothers of infants under 6 months of age and to treat wasting and that they are not diverted to other services, if possible. When it is necessary to divert staff, seek alternative staffing options. • Ensure CHWs are sufficient in number and receive adequate training, equipment, supplies (including PPE and IPC material), medicines, supportive supervision and remuneration to provide treatment for uncomplicated wasting at the community level according to national protocols, and infant feeding counselling in the context of COVID19.
Supply of essential medicines and commodities	• Intensify the pre-positioning of essential commodities for nutrition programming. Health care facilities currently delivering services for the prevention and treatment of child wasting should stock a minimum of three months of essential commodities (e.g., F100/75, RUTF, multiple micronutrient powders, vitamin A supplements, IFA/MMS, MNPs, MUAC tapes and other anthropometric equipment, vaccines, etc.) in anticipation of supply chain disruptions.[23] • Maintain the regular tracking of supply chains for essential medicines, nutrition commodities, equipment and material, and incorporate the monitoring of PPE and IPC materials.
Health Information Systems	• Identify gaps in current health information in the reporting of treatment services and develop plans using alternative monitoring techniques or sources of key wasting indicators and their contributing factors. • Consider the use of digital technology for remote monitoring of nutrition services. • Support the inclusion of appropriate nutrition indicators in national routine health management information systems, and strengthen government capacity for collecting, reporting and using nutrition information to inform services during the pandemic.[24] • Identify secondary sources of data to describe the current nutritional situation and estimate potential deterioration. Regular sources of information on the prevalence of wasting (i.e., representative household surveys and assessments requiring close physical contact) may be temporarily suspended. Sources of secondary data can be identified in other sectors, such as the health, food security, and water, sanitation and hygiene (WASH) sectors. • Disseminate relevant technical information to support the response.

ANNEX I.

CONSIDERATIONS FOR THE USE OF ANTHROPOMETRIC TOOLS IN THE CONTEXT OF COVID-19*

The availability of PPE and IPC material, including (but not limited to) gloves, masks, gowns, face shields, sanitizers and disinfectant solution, is a prerequisite for safely approaching the nutritional assessment of the child. However, the shortage of supplies and delays in distribution to each facility remain a challenge. The table below describes how indicators are measured and identifies the most suitable parameters that can be measured during COVID19. The possible shortage of IPC material and PPE requires the development of a parameters risk matrix based on two scenarios:

a. **Availability** of adequate protocols, PPE and IPC material, and disinfectants to sanitize the surfaces of anthropometric tools

b. **Shortage** of adequate protocols, PPE and IPC material, and disinfectants to sanitize the surfaces of anthropometric tools

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* Taken from Standard Operating Procedures for Nutritional Screening in Nutrition Surveillance Sites established in health facilities (Hospitals and PHC), in line with COVID19 preventive measures, Yemen

Parameters risk matrix

Based on the availability (or shortage) of adequate protocols, PPE and IPC material, and disinfectant for anthropometric tools surface:

Parameter	Assessment tool	Risk of transmission by contact (surface/people)	Recommended during COVID with availability of IPC and PPE	Recommended during COVID with shortage of IPC and PPE
Weight	Digital scale	Digital scales are safe. The scale allows a child's weight to be measured while being held by an adult, standing on the scale with shoes, with no need to touch. Taring function is automatically initiated, without pressing any operational button.	**YES**	**YES**
Weight	Infant scale	The infant is undressed and placed on the surface, which may be contaminated.	**NO**	**NO**
Height/length	Height board	Measuring boards are used to measure the standing height of children 2 years of age and older and adults, or the recumbent length of infants less than 2 years of age. A child's length is measured lying down (recumbent). Height is measured standing upright. The child is positioned flat on the board, the caregiver is normally requested to help keep the child's head straight. Child and mother are highly in contact with the surface. Therefore, the height board should be disinfected after every use.	**YES** (if IPC protocols are in place and PPE available)	**NO** (use the tool only if IPC protocols are in place and PPE available)
Age	Question/ verbal	There is no need for caregivers and children to have contact with any surface or with health workers. Caregivers and children should not be allowed to touch pens and registries.	**YES**	**YES**
Exclusive breastfeeding	Question/ verbal	There is no need for caregivers and children to have contact with any surface or with health workers. Caregivers and children should not be allowed to touch pens and registries.	**YES**	**YES**
MUAC*	Tape to measure mid-upper arm circumference	It requires short-term but direct physical contact between the child and the health worker, physical proximity between health worker and caregiver, and contact with a surface (the MUAC tape). This tool can be used only if the MUAC tape can be disinfected after each use, or if a single-use MUAC tape is available, and if masks and gloves are available for health workers.	**YES** (MUAC tape must be disinfected after each use, or a single-use MUAC tape must be used for each child)	**YES** (MUAC tape must be disinfected after each use, or a single-use MUAC tape must be used for each child)
Oedema	Physical assessment of the child's feet	It requires short-term but direct physical contact between the child and the health worker and proximity with the mother. The indicator is a sign of severe malnutrition and highly related to the risk of mortality. Oedema can be measured only if masks and gloves and available for health workers.	**YES** (if IPC protocols are in place and PPE available)	**YES** (assessment can be carried out by caregivers under health workers supervision)

The implementation of the above-mentioned risk matrix will depend on a variety of context-specific factors. The following scenarios illustrate some of these challenges and possible solutions.

Scenario 1: Safe nutritional assessment with availability of PPE and IPC material

This option is implemented if adequate protocols, PPE and IPC material, and disinfectants to sanitize the surfaces of anthropometric tools, including MUAC tapes, are available.

Selected indicators. The selection of indicators is based on the parameters risk analysis, illustrated in the table above. As a result, the following indicators will be assessed during COVID19:

- Underweight: weight-for-age
- Wasting using WHZ and MUAC
- Nutritionally at-risk using WAZ for infants <6m
- Exclusive breastfeeding
- Oedema

Note about infants 0–6 months. They are considered severely malnourished if they have a weight-for-length Z-score of < –3 SD or bilateral oedema. For infants with a length < 45 cm, the weight-for-length Z-score has not been established. The criteria for severe wasting are based on **weight for-age < –3 Z-score, together with breastfeeding or other feeding difficulties.** There are currently no globally established thresholds for MUAC to identify at-risk infants under six 6 months of age. The recommendations provided in this note are based on research in several African countries into the MUAC thresholds associated with mortality risk and programming experience. In accordance with existing guidance[25], these infants should be managed in the community if they have no other medical complications and it is assessed that the child can be safely and adequately fed by breastfeeding or another appropriate replacement feed with community support. Avoiding admission for this specific group will reduce their (or their caretaker's) risk of contracting COVID-19 in a health facility. Infants <6m with medical complications must be treated as inpatients.

Scenario 2: Safe nutritional assessment with shortage of PPE and IPC material

This option is implemented if there is a shortage of adequate PPE, IPC material, and disinfectants to sanitize the surfaces of anthropometric tools. **MUAC tapes must be disinfected with solution, washed with water and soap, or sanitized after each use. Alternatively, a single-use MUAC tape may be used for each child.**

Selected indicators. The selection of indicators is based on the parameters risk analysis, illustrated in the table above. As a result, the following indicators will be assessed during COVID19

- Underweight: weight-for-age
- Acute malnutrition using MUAC
- Exclusive breastfeeding
- Oedema

Although height boards are safe to use after sanitization, MUAC may be recommended for children aged 6–59 months in the absence of disinfectant solution.

References

1 World Health Organization, *Maintaining essential health services: operational guidance for the COVID-19 context. Interim guidance*, Geneva, 1 June 2020

2 United Nations, *Policy Brief: The Impact of COVID-19 on Food Security and Nutrition* (Secretary General Brief, June 2020), forthcoming.

3 World Health Organization, *COVID-19: Operational guidance for maintaining essential health services during an outbreak. Interim guidance*, Geneva, 25 March 2020.

4 World Health Organization, United Nations Children's Fund and International Federation of Red Cross and Red Crescent Societies, *Community-based health care, including outreach and campaigns, in the context of the COVID-19 pandemic: interim guidance,* Geneva, World Health Organization, May 2020, <https://apps.who.int/iris/handle/10665/331975>, accessed 23 May 2020.

5 World Health Organization, *Operational considerations for case management of COVID-19 in health facility and community: interim guidance,* Geneva, World Health Organization, 19 March 2020. <https://apps.who.int/iris/handle/10665/331492>, accessed 23 May 2020.

6 World Health Organization and International Telecommunications Union, *National eHealth strategy toolkit,* Geneva, World Health Organization, 2012, <https://apps.who.int/iris/handle/10665/75211> accessed 23 May 2020.

7 World Health Organization, *Mental health and psychosocial considerations during the COVID-19 outbreak,* Geneva, World Health Organization, 18 March 2020, <https://apps.who.int/iris/handle/10665/331490>, accessed 23 May 2020.

8 World Health Organization, *Breastfeeding and COVID-19, Scientific Brief,* Geneva, World Health Organization 23 June 2020.

9 World Health Organization, *Clinical management of COVID-19, Interim Guidance,* Geneva, World Health Organization, 27 May 27 2020, <https://www.who.int/publications/i/item/clinical-management-of-covid-19>, accessed 24 June, 2020.

10 World Health Organization, *Simplified approaches for the treatment of child wasting,* Geneva, World Health Organization, 2020 <http://www.who.int/nutrition/events/2019-consultation-simplified-treatment-childwasting-26to27march/en/>, accessed 30 April 2020.

11 *Ibid*

12 World Health Organization, *Training course on the management of severe malnutrition,* Geneva, World Heatlh Organization, 2009, <https://www.who.int/nutrition/publications/severemalnutrition/training_inpatient_MSM/en/>, accessed 24 June 2020.

13 James PT, et al. 'Low-dose RUTF protocol and improved service delivery lead to good programme outcomes in the treatment of uncomplicated SAM: a programme report from Myanmar' *Maternal and Child Nutrition,* 2015, < https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4672709/>, accessed 24 June, 2020.

14 Bailey, J. et al. 'Combined Protocol for Acute Malnutrition Study (ComPAS) in rural South Sudan and urban Kenya: study protocol for a randomized controlled trial', *Trials,* 24:19(1), 2018, pp.251.

15 Chase R et al. 'Acute malnutrition recovery energy requirements based on mid-upper arm circumference: secondary analysis of feeding program data from 5 countries, Combined Protocol for Acute Malnutrition Study (ComPAS) Stage 1', *PLOS One,* 15(6):e0230452, 3 June 2020.

16 Bailey J et al. 'A simplified, combined protocol versus standard treatment for acute malnutrition in children 6–59 months (ComPAS trial): a cluster randomized controlled non-inferiority trial in Kenya and South Sudan', *PLOS Medicine,* forthcoming (accepted: 8 June 2020).

17 Kangas ST et al. 'Impact of reduced dose of ready-to-use therapeutic foods in children with uncomplicated severe acute malnutrition: A randomised non-inferiority trial in Burkina Faso', *PLOS Medicine,* 16(8), e1002887, 2019.

18 Daures M et al. 'New approach to simplifying and optimising acute malnutrition treatment in children aged 6-59 months: the OptiMA single-arm proof-of-concept trial in Burkina Faso', *British Journal of Nutrition,* 123(7), 2020, pp. 756–767.

19 World Health Organization and the United Nations Children's Fund (UNICEF) *Community-based health care, including outreach and campaigns, in the context of the COVID-19 pandemic, Interim Guidance,* Geneva May 2020, Licence: CC BY-NC-SA 3.0 IGO.

20 Isanaka, S et al., 'Outpatient treatment of severe acute malnutrition: response to treatment with a reduced schedule of therapeutic food distribution', *American Journal of Clinical Nutrition,* 105(5), May 2017, pp. 1191–1197.

21 IASC (2020) Interim recommendations for adjusting food distribution standard operating procedures in the context of the COVID-19 outbreak (World Food Programme, March 2020, Version 2.) https://interagencystandingcommittee.org/system/files/2020-03/Final%20Interim%20IASC%20Guidance%20on%20COVID-19%20Outbreak%20Readiness%20and%20Response%20-%20Food%20Distribution.pdf

22 World Health Organization, United Nations Children's Fund and International Federation of Red Cross and Red Crescent Societies, *Community-based health care, including outreach and campaigns, in the context of the COVID-19 pandemic: interim guidance,* Geneva, World Health Organization, May 2020, <https://apps.who.int/iris/handle/10665/331975>, accessed 23 May 2020.

23 Evidence from past epidemics suggests that outbreaks (such as Ebola) cause supply chain shortages and declines in essential health services that need to be circumvented. See: 1) Decroo T, Fitzpatrick G, Amone J., 'What was the effect of the West African Ebola outbreak on health programme performance, and did programmes recover?' *Public Health Action,* vol. 7(Suppl 1):S1–S2, 2017.)

24 UNICEF, Global Nutrition Cluster, GTAM, *Nutrition Information Management, Surveillance and Monitoring in the Context of COVID-19,* Brief No. 1, New York, 14 April 2020.

25 World Health Organization *Updates on the management of severe acute malnutrition in infants and children.* Geneva, World Health Organization, 2013. http://www.who.int/nutrition/publications/guidelines/updates_management_SAM_infantandchildren/en/