COMPENDIUM OF ACTIONS FOR NUTRITION
The Compendium of Actions for Nutrition (CAN) is a facilitation resource developed by REACH, as part of the UN Network for SUN, for national authorities and their partners (including SUN government actors, REACH facilitators and SUN networks) to foster multi-sectoral dialogue at the country level particularly for nutrition-related policy making and planning. It presents a breadth of possible actions to combat malnutrition, with sub-actions classified into three discreet evidence categories, as indicated in these matrices. Descriptions of evidence categories are provided in the matrix ‘chapter’ while references to support that evidence classification are listed in the bibliography. In addition, references related to contextual information for sub-actions are listed in the Notes/Remarks column. The matrices also identify the causal level of each sub-action along with factors contributing to an enabling environment for nutrition in each thematic area. These enabling factors have varying levels of evidence. The CAN does not prescribe a specific set of nutrition actions, although it does recognize that prioritization is critical. It also recognizes that prioritization must be based on context, drawing upon a robust situation analysis, available evidence and country priorities in consultation with a range of stakeholders. Further information about the structure and content of these matrices, the process of developing the CAN and how to use the tool can be found in the Overview section.

“A child weakened by ill-health and disease (e.g. diarrhea) will not absorb sufficient nutrients, however adequate the food provided.

(Nisbett, Gillespie, Haddad & Harris, 2014)
INTRODUCTION

The links between health and nutrition are well-established – both in terms of physiological vulnerabilities and the vicious cycle of illness and disease, and malnutrition (see Figure 5). Women and young children are particularly susceptible to undernutrition in view of their physiological and social vulnerabilities. While physiological differences in women may stem from the increased nutritional requirements (e.g. iron) needed to sustain biological processes such as menstruation, pregnancy and lactation, vulnerabilities in young children arise from several other issues. For instance: dietary ‘bulk’ challenges (the need for nutrient-dense foods¹ and the fact that weaning children can only consume small quantities of food given their small stomach sizes); the rapid growth they undergo in this period; and the still-developing immune system of young children all contribute to vulnerabilities.

The emerging evidence on adolescence includes catch-up linear growth trends.² This evidence has elucidated the links between adolescent pregnancies, low-birth-weight (under 2.5 kg) and other poor birth outcomes, stunting among mothers and children, and overweight and obesity. It has also highlighted the links between adolescent anaemia, nutrition during early pregnancy and birth outcomes – underscoring the importance of adopting a lifecycle approach to nutrition.³⁴ Furthermore, social vulnerabilities may adversely affect access to health and sanitation services that are critical for good nutrition.

Health and nutrition are closely interconnected. Individuals afflicted by disease and illness may have heightened nutritional needs to help to fight infection. Poor nutrition, particularly during early childhood (including in utero), can impair child growth, impede cognitive and social development, and contribute to child mortality. In fact, there is strong evidence that undernutrition contributes to over 3 million child deaths (among children under 5) each year, or approximately 45 percent of preventable child mortality.⁵⁶ A study in the 2013 Lancet series on maternal and child nutrition indicated that “Severe infectious disease in early childhood – such as measles, diarrhea, pneumonia, meningitis, and malaria – can cause acute wasting and have long-term effects on linear growth”.³ In some cases, there are direct reciprocal relationships between child undernutrition and disease, such as between vitamin A deficiency and measles, whereby one exacerbates the other. Specific micronutrient (vitamin and mineral) deficiencies are also associated with an increased incidence of illnesses and diseases such as diarrhoeal diseases, pneumonia and other acute respiratory infections.⁴⁷

¹ Nutrient-dense refers to the amount of nutrients per unit of energy [e.g. mg iron/100 kcal or g protein/100 kcal] (Drewnowski, A. 2005. Concept of a nutritious food: Toward a nutrient density score. Commentary. American Journal of Clinical Nutrition, Volume 82(4):721-732; De Pee, S. (forthcoming) Nutrient needs and approaches to meeting them, Chapter 8: Nutrition and Health in a Developing World. Third edition, edited by De Pee, S., Taren, D., & Bloem, M.W. Humana Press. Totowa.).
⁵ Ibid.
The relationship between nutrition and noncommunicable diseases (NCDs) is well-documented\(^\text{10}\) and is becoming increasingly prominent on the international political agenda.\(^\text{11}\) There is also a greater understanding of how "undernutrition in early life predisposes to overnutrition and non-communicable disease later in life".\(^\text{12}\) A seminal study published in The Lancet (2015) identified diet as the top risk factor in the global burden of disease.\(^\text{13}\)

Health-based, nutrition-related interventions typically apply a life-cycle approach starting from conception through late adulthood (see Figure 6). These interventions emphasize the critical window of opportunity from conception to a child's second birthday (the first 1,000 days), and use health services such as ante- and post-natal care to provide nutritional support.\(^\text{14}\) Empirical evidence demonstrates that women who experience nutritional deficits in the womb


or during the first two years of life are likely to become short adults and give birth to low-birth-weight newborns, perpetuating the intergenerational cycle of malnutrition.\textsuperscript{16,17,18}

The Health section of the CAN includes five thematic areas: (1) Nutrition Interventions Delivered through Reproductive and Paediatric Health Services; (2) Micronutrient Supplementation;\textsuperscript{21-23} (3) Management\textsuperscript{23} of Acute Malnutrition; (4) Nutrition-related Disease Prevention and Management; and (5) Water, Sanitation and Hygiene (WASH) for Good Nutrition. Nutrition education, social marketing and behaviour change communication (BCC) activities, and other enabling factors are integrated into these thematic areas.

Actions and sub-actions in these thematic areas should be undertaken in a gender-sensitive manner. Qualifying information, including recommendations and links to related thematic areas in the CAN, is presented in the Notes/Remarks column of the matrices to provide CAN users with contextual information to enrich multi-sectoral nutrition dialogue at the country level.

Regardless of thematic area, it is critical to obtain an accurate depiction of the nutrition situation from the beginning, recognizing that this understanding should inform policy, planning and programming. Nutrition assessment using anthropometric and micronutrient indicators\textsuperscript{24,25} among target groups is therefore considered to be a cross-cutting action in all five thematic areas. This will enable the selection of nutrition sub-actions from the Health matrices to be driven by a robust understanding of the nutrition context.

\textsuperscript{17} UNSCN. 2010. 6th Report on the world nutrition situation: Progress in nutrition. Geneva.
\textsuperscript{19} Including overnutrition (\textit{Ibid}.)
\textsuperscript{21} Including public health prevention programmes using micronutrient supplementation and treatment-related micronutrient supplementation.
\textsuperscript{22} In addition to the sub-actions listed in this thematic area, several countries carry out vitamin A supplementation in postpartum women in view of the nutritional benefits conferred to infants by improving the vitamin A content of breast milk, as documented in empirical literature (see: de Pee, S. 2012. Benefits of postpartum vitamin A supplementation. \textit{Jornal de Pediatria}, Volume 88(2):99-100). However, vitamin A supplementation is not listed as a discreet sub-action in the CAN in view of the WHO recommendation not to undertake this intervention. WHO's recommendation is based on evidence suggesting that vitamin A supplementation in postpartum women does not reduce the risk of illness or death in mothers or their infants. WHO e-Library of Evidence for Nutrition Actions (e-LENA) available at http://www.who.int/elena/titles/vitamin_a_postpartum/en/ and WHO. 2011. Guideline: Vitamin A supplementation in postpartum women. Geneva. Available at http://www.who.int/nutrition/publications/micronutrients/guidelines/vas_postpartum/en/.
\textsuperscript{23} This includes both treatment and prevention of acute malnutrition.
\textsuperscript{24} WHO. Nutrition Landscape Information System (NLIS). Available at http://www.who.int/nutrition/databases/en/.
**ACTION 1**

Family planning support for optimal birth spacing and to prevent teenage pregnancies as part of reproductive health services

<table>
<thead>
<tr>
<th>SUB-ACTION 1a</th>
<th>CAUSAL LEVEL*</th>
<th>EVIDENCE CATEGORY**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention of adolescent pregnancy</td>
<td>Underlying/Basic</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

During adolescent pregnancy, the nutritional requirements of adolescent girls’ growing bodies compete with those of the growing foetus (Gigante et al., 2005). Links have been demonstrated between adolescent pregnancy, an elevated risk of complications and unfavourable birth outcomes, mortality and stunting. This is highly relevant for low and middle-income countries (LMICs) since “adolescent fertility is three times higher in LMICs than in high-income countries” (Black et al., 2013). In addition, “pregnancy in adolescence will slow and stunt a girl’s growth” (Black et al., 2013). There is mixed evidence about whether adolescent pregnancy is associated with increased post-pregnancy body-mass index (BMI) among girls who had adolescent pregnancies (Gigante et al., 2005); or weight loss and depletion of fat and lean body mass (Rah et al., 2008).


**SUB-ACTION 1b**

Voluntary family planning and reproductive health education and support

<table>
<thead>
<tr>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underlying/Basic</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

This sub-action includes the promotion of optimal inter-pregnancy intervals (also known as birth spacing) in view of the demonstrated links between short and long birth intervals, and adverse effects such as maternal anaemia, preterm births and low-birth-weight (Bhutta et al., 2013). This sub-action is particularly important given the links between low-birth-weight and stunting (Black et al., 2013).


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* Immediate causes: Causes related to inadequate food intake and exposure to disease or illness. Underlying causes: Household and community-level factors, which may be influenced by issues such as agricultural practices, climate, lack of availability and access to safe water, sanitation, health services and education for girls, and other gender-related issues. Basic causes: Societal structures and processes that impede vulnerable populations’ access to essential resources. They typically stem from institutional, political, economic and social factors, including governance, trade, environmental and gender issues, and poverty.

** The following evidence categories are used in the CAN: (1) synthesized evidence exists: this includes meta-analyses and systematic reviews. It should be noted however that the number of studies included in meta-analyses and systematic reviews varies across sub-actions, with some synthesized evidence based on a large number of studies and other synthesized evidence based on a limited number of studies; (2) published primary studies exist: no synthesized evidence exists, but evidence is published in peer-reviewed journals; and (3) practice-based studies exist: there is published experience-based evidence documented in the ‘grey literature’ although no evidence has been published in peer-reviewed journals – either in the form of synthesized evidence or single studies. This indicates that further research is warranted.
**ACTION 2**

Nutrition interventions through antenatal care, birthing services and postnatal care

<table>
<thead>
<tr>
<th>SUB-ACTION 2a</th>
<th>Maternal, infant, and child nutrition and health counselling</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Underlying/</td>
<td>Synthesized evidence</td>
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<tr>
<td></td>
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<td>Immediate</td>
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</tbody>
</table>

**NOTES/REMARKS**

This sub-action comprises counselling, including on the benefits of breastfeeding and risks of artificial feeding.

Maternal nutrition counselling covers adolescent nutrition in the case of adolescent pregnancies. According to WHO’s eLENA, nutrition counselling during pregnancy encompasses: (1) encouraging pregnant women to enhance the quality of their diet by increasing the diversity and amount of foods consumed, (2) promoting adequate weight gain through sufficient and balanced protein and energy intake; and (3) promoting consistent and continued use of micronutrient supplements, food supplements or fortified foods.

WHO recommends that mothers initiate breastfeeding within one hour of birth and that infants should be exclusively breastfed for the first six months of life to achieve optimal growth, development and health. Thereafter, WHO recommends that infants receive nutritionally adequate and safe complementary foods while continuing to breastfeed until 2 years or beyond in order to meet their evolving nutritional requirements.

Results from a meta-analysis indicate that interventions providing antenatal and post-natal counselling were more effective than those targeting only one period, whereas interventions targeting fathers yielded mixed results (Rollins et al., 2016).

Infant and young child feeding (IYCF) support provided in special circumstances (e.g. in emergencies, for low-birth-weight and very low-birth-weight [VLBW] infants, and those affected by HIV, Ebola virus disease and Zika), and community-level IYCF support are captured in the thematic area on IYCF.


<table>
<thead>
<tr>
<th>SUB-ACTION 2b</th>
<th>Micronutrient supplementation for pregnant and postpartum women</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Immediate</td>
<td>Synthesized evidence</td>
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</tbody>
</table>

**NOTES/REMARKS**

More information about micronutrient supplementation and associated evidence, disaggregated by type of micronutrient supplementation, can be found in the thematic area on Micronutrient Supplementation. This sub-action should be carried out in accordance with national policy and guidelines. It is good practice to accompany this sub-action with nutrition education and behaviour change communication on micronutrient supplementation.

<table>
<thead>
<tr>
<th>SUB-ACTION 2c</th>
<th>Long chain polyunsaturated fatty acid supplementation during pregnancy</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Immediate</td>
<td>Synthesized evidence</td>
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</tbody>
</table>

**NOTES/REMARKS**

Supplementation with n-3 long-chain polyunsaturated fatty acids is associated with a reduced risk of preterm delivery and a modest increase in birth weight.

<table>
<thead>
<tr>
<th>SUB-ACTION 2d</th>
<th>Supplementary feeding (balanced energy and protein) during pregnancy</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Immediate</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

Antenatal nutritional advice may be effective in increasing maternal protein intake and reducing the risk of preterm birth.

(***ACTION 2 continued...***

**HEALTH**

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<table>
<thead>
<tr>
<th>SUB-ACTION 2e</th>
<th>Nutrition-related illness and disease prevention and management among pregnant and postpartum women</th>
<th>CAUSAL LEVEL</th>
<th>Immediate</th>
<th>EVIDENCE CATEGORY</th>
<th>Synthesized evidence and primary studies depending upon the type of intervention, target group and circumstances</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NOTES/REMARKS</strong></td>
<td>Some aspects of this sub-action are based on synthesized evidence while others have evidence documented in primary studies. Further information about nutrition-related disease prevention and management among pregnant and postpartum women – including evidence categorization – can be found in the thematic area on Nutrition-related Disease Prevention and Management.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SUB-ACTION 2f</th>
<th>Optimal time of umbilical cord clamping for the prevention of iron deficiency anaemia among infants</th>
<th>CAUSAL LEVEL</th>
<th>Immediate</th>
<th>EVIDENCE CATEGORY</th>
<th>Synthesized evidence</th>
</tr>
</thead>
</table>
| **NOTES/REMARKS** | WHO recommends delayed umbilical cord clamping (not earlier than one minute after birth) to improve maternal and infant health, and nutrition outcomes. It specifically recommends that the umbilical cord not be clamped earlier than is necessary for applying cord traction to reduce post-partum haemorrhage and speed expulsion of the placenta, which normally takes approximately three minutes (WHO, eLENA).  

<table>
<thead>
<tr>
<th>SUB-ACTION 2g</th>
<th>Support for feeding and care of low-birth-weight and very-low-birth-weight infants</th>
<th>CAUSAL LEVEL</th>
<th>Underlying/Immediate</th>
<th>EVIDENCE CATEGORY</th>
<th>Synthesized evidence</th>
</tr>
</thead>
</table>
| **NOTES/REMARKS** | This sub-action includes support on the following aspects of feeding low-birth-weight (LBW) infants in LMICs as per WHO recommendations:  
(1) What to feed in terms of choice of milk and supplements;  
(2) When and how to initiate feeding;  
(3) Optimal duration of exclusive breastfeeding;  
(4) How to feed; and  
(5) Frequency of feeding and how to increase daily feeding volumes.  
WHO recommendations relevant to VLBW infants are also indicated. None of the recommendations on feeding LBW infants refer to sick infants or infants with a birth weight below 1.0 kg. Additional resources on feeding LBW infants are referenced in the CAN bibliography. |

<table>
<thead>
<tr>
<th>SUB-ACTION 2h</th>
<th>Kangaroo mother care</th>
<th>CAUSAL LEVEL</th>
<th>Underlying/Immediate</th>
<th>EVIDENCE CATEGORY</th>
<th>Synthesized evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NOTES/REMARKS</strong></td>
<td>WHO recommends that babies should be placed in skin-to-skin contact with their mothers immediately following birth for at least one hour and mothers should be encouraged to recognize when their babies are ready to breastfeed, offering help if needed. In general, closeness to babies is recommended, such as in the ‘roaming-in’ aspect of the Ten Steps to Successful Breastfeeding in all facilities that provide maternity services, including via implementation of the Baby-friendly Hospital Initiative (BFHI). Skin-to-skin contact is recommended for all infants, although ‘kangaroo care’ is particularly helpful for LBW infants (especially when there is limited support). General breasting support is captured in other sub-actions in this thematic area.</td>
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</table>

<table>
<thead>
<tr>
<th>SUB-ACTION 2i</th>
<th>Institutionalization of the 10 Steps to Successful Breastfeeding in all facilities that provide maternity services, including via the implementation of the Baby-friendly Hospital Initiative (BFHI)</th>
<th>CAUSAL LEVEL</th>
<th>Underlying</th>
<th>EVIDENCE CATEGORY</th>
<th>Synthesized evidence</th>
</tr>
</thead>
</table>
| **NOTES/REMARKS** | The 10 Steps are identified in the guidance materials below.  
### ACTION 3
Nutrition interventions through primary paediatric health care during early childhood

<table>
<thead>
<tr>
<th>SUB-ACTION 3a</th>
<th>Nutrition-related illness and disease prevention and management during early childhood</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Immediate</td>
<td>Synthesized evidence and primary studies depending upon the type of intervention, target group and circumstances</td>
</tr>
</tbody>
</table>

NOTES/REMARKS
This sub-action includes the integrated management of childhood illness (IMCI).
Some aspects of this sub-action are based on synthesized evidence while others have evidence documented in primary studies. For more information, refer to the thematic area on Nutrition-related Disease Prevention and Management, which includes the categorization of evidence.

<table>
<thead>
<tr>
<th>SUB-ACTION 3b</th>
<th>Micronutrient supplementation in children</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Underlying/Immediate</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

NOTES/REMARKS
This sub-action can be classified as having synthesized evidence or evidence documented in primary studies depending upon the specific target group and circumstances. More information about micronutrient supplementation and associated evidence, disaggregated by type of micronutrient supplementation, can be found in the thematic area on Micronutrient Supplementation. It is also good practice to accompany this sub-action with nutrition education and BCC on micronutrient supplementation.

<table>
<thead>
<tr>
<th>SUB-ACTION 3c</th>
<th>Infant and young child feeding counselling</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Underlying/Immediate</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

NOTES/REMARKS
Counselling includes information on the benefits of breastfeeding and the risks of artificial feeding, and optimal complementary feeding practices.
WHO recommends that mothers initiate breastfeeding within one hour of birth and that infants should be exclusively breastfed for the first six months of life to achieve optimal growth, development and health. Thereafter, WHO recommends that infants receive nutritionally adequate and safe complementary foods while continuing to breastfeed until 2 years or beyond to meet their evolving nutritional requirements.
Results from a meta-analysis indicate that interventions providing antenatal and post-natal counselling were more effective than those targeting one period only; interventions targeting fathers yielded mixed results.
IYCF support provided at the community level is captured in the thematic areas on Infant and Young Child Feeding.

<table>
<thead>
<tr>
<th>SUB-ACTION 3d</th>
<th>Vaccinations</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Underlying</td>
<td>Synthesized evidence</td>
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</tbody>
</table>

NOTES/REMARKS
This sub-action includes the measles and rotavirus vaccines.
Individuals suffering from illness may have increased nutritional requirements to fight infection or impaired nutrient absorption. In addition, there is a reciprocal relationship between measles and individuals’ vitamin A status. Rotavirus and cholera are associated with about one third of severe diarrhoea cases (Fanzo et al., 2014). Therefore, vaccination against these diseases is particularly relevant for safeguarding nutrient absorption.

### ACTION 4

**Nutrition interventions through primary paediatric health care during adolescence**

<table>
<thead>
<tr>
<th>SUB-ACTION 4a</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counselling on healthy diets</td>
<td>Underlying</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

The evidence for this sub-action refers to existing data on nutrition education provided in school settings (see sub-action 1b in the thematic area on Food Consumption Practices for Healthy Diets). Data on this target group in other settings or for other delivery mechanisms are not readily available.

<table>
<thead>
<tr>
<th>SUB-ACTION 4b</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micronutrient supplementation in adolescents</td>
<td>Underlying/Immediate</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

### Enabling Environment

These sub-actions reflect factors that contribute to an enabling environment for nutrition, such as policy coherence, legislation, regulations, standards, trade mechanisms, social marketing, and behaviour change communication; the absence of these factors may contribute to a disabling environment. The factors listed in this section are supported by varying levels of evidence; applicable references are cited, when available. These Enabling Environment sub-actions were not classified by evidence category because they are considered to be key to fostering an enabling environment irrespective of the existing level of evidence.

### ACTION 1. Assessment and information

<table>
<thead>
<tr>
<th>SUB-ACTION 1a</th>
<th>CAUSAL LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition assessments as part of reproductive health services, and referral of malnourished pregnant and lactating women to nutrition programmes for the management of acute malnutrition, as appropriate</td>
<td>Underlying</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

This sub-action encompasses weight, mid-upper arm circumference (MUAC) in countries where that measurement is undertaken, micronutrient status (e.g. anaemia) among pregnant women and MUAC and micronutrient status among postpartum women. This sub-action includes the adoption of cutoffs for assessing wasting, overweight and obesity based on global standards and the availability of equipment to measure these forms of malnutrition.

For more information on nutrition assessments related to the management of acute malnutrition, refer to the thematic area on the Management of Acute Malnutrition.

<table>
<thead>
<tr>
<th>SUB-ACTION 1b</th>
<th>CAUSAL LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth monitoring and promotion as part of primary paediatric health services for infants and young children</td>
<td>Underlying/Immediate</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

This sub-action includes repeated anthropometric measurement of infants and young children to compare their growth rates against a standard in order to assess growth adequacy and identify growth faltering, with a view to preventing undernutrition. The WHO child growth standards are available at [http://www.who.int/childgrowth/en/](http://www.who.int/childgrowth/en/).

In addition, this sub-action encompasses adopting MUAC and the WHO child growth standards to facilitate the identification of individuals with severe or moderate acute malnutrition. It also includes the adoption of cutoffs for assessing child wasting, stunting, overweight and obesity based on global standards and the availability of equipment to measure these forms of malnutrition. Refer to the thematic area on the Management of Acute Malnutrition for further information on nutrition assessments for acute malnutrition.

<table>
<thead>
<tr>
<th>SUB-ACTION 1c</th>
<th>CAUSAL LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV testing in pregnant and lactating women to minimize the risk of mother-to-child transmission of HIV through breastfeeding</td>
<td>Underlying</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

For more information, refer to the thematic areas on Nutrition-related Disease Prevention and Management, and IYCF.

(*Enabling Environment continued...*)
### ACTION 2. Policy coherence

#### SUB-ACTION 2a
Policy coherence between policies/strategies on maternal/reproductive, neonatal, child, and other nutrition-related health, social protection, agriculture/food, trade, labour, nutrition and other relevant cross-cutting issues

**CAUSAL LEVEL**
Basic

**NOTES/REMARKS**
Relevant agriculture and food policies and strategies include fortification policies, while cross-cutting policies and strategies may include those on IYCF and gender. Labour policies are one mechanism for ensuring maternity protection.

### ACTION 3. Legislation, regulations/standards, protocols and guidelines

#### SUB-ACTION 3a
Development of national growth charts

**CAUSAL LEVEL**
Underlying/Basic

**NOTES/REMARKS**
The development of national growth charts should be based on WHO child growth standards.

#### SUB-ACTION 3b
Implementation and monitoring of the International Code of Marketing of Breast-milk Substitutes and subsequent World Health Assembly resolutions and national measures adopted to give effect to these

**CAUSAL LEVEL**
Basic

**NOTES/REMARKS**
Within the context of reproductive and paediatric health services, this sub-action entails restricting the marketing of breast-milk substitutes within these health services.

#### SUB-ACTION 3c
Legislation and regulation on marketing of food and non-alcoholic beverages and food safety to protect healthy diets

**CAUSAL LEVEL**
Basic

**NOTES/REMARKS**
This sub-action includes the development, implementation and enforcement of such legislation and regulations, and it may apply to food and non-alcoholic beverages, including breastmilk substitutes and complementary foods. Advertising to children is recognized as a risk factor for obesity. WHO has developed a set of 12 recommendations, endorsed by the World Health Assembly, aimed at reducing the impact of marketing foods high in saturated fats, trans-fatty acids, free sugars or salt (WHO, 2010). 


#### SUB-ACTION 3d

**CAUSAL LEVEL**
Underlying
### COMPENDIUM OF ACTIONS FOR NUTRITION

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
<th>Causal Level</th>
</tr>
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<tbody>
<tr>
<td><strong>ACTION 4. Fiscal policy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SUB-ACTION 4a</strong></td>
<td>Taxes and subsidies to support good nutrition</td>
<td>Basic</td>
</tr>
<tr>
<td><strong>NOTES/REMARKS</strong></td>
<td>This sub-action includes subsidization or removal of taxation on supplies and equipment for reproductive and paediatric health services.</td>
<td></td>
</tr>
<tr>
<td><strong>SUB-ACTION 4b</strong></td>
<td>Fiscal policy to support adequate education for girls and boys</td>
<td>Basic</td>
</tr>
<tr>
<td><strong>ACTION 5. Planning, budgeting and management</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SUB-ACTION 5a</strong></td>
<td>Capacity development/strengthening to enable nutrition to be reflected in health, education, social protection, agriculture/food, trade, labour and nutrition planning and implementation at the national and decentralized levels</td>
<td>Basic</td>
</tr>
<tr>
<td><strong>NOTES/REMARKS</strong></td>
<td>This sub-action helps to foster coordinated planning and budgeting for nutrition in these areas. It involves the following elements to ensure that there is sufficient technical capacity to implement the sub-actions in this thematic area.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1) Recruitment of nutritionists in government agencies;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2) Strengthening nutrition curricula in formal education; and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3) Provision of basic nutrition training for units in charge of planning and implementation.</td>
<td></td>
</tr>
</tbody>
</table>

---

### SUB-ACTION 3f
Promotion of universal health coverage to improve access to nutrition-related health services on reproductive health, primary paediatric health care, and the prevention and management of nutrition-related illnesses/diseases

**NOTES/REMARKS**
Further information about nutrition-related health services is provided in the thematic areas on Micronutrient Supplementation and Nutrition-related Disease Prevention and Management. Universal health coverage is also included in the Social Protection section.

### SUB-ACTION 3g
Legislation on compulsory education for girls and boys

**CAUSAL LEVEL**
Basic

**NOTES/REMARKS**
This sub-action includes the development, enactment and enforcement of legislation for minimum-age for marriage.

---

### Sub-ACTION 3e
Legislation on minimum age for marriage to prevent child marriage and adolescent pregnancy in an effort to safeguard nutrition among adolescent girls, infants and young children

**CAUSAL LEVEL**
Basic

**NOTES/REMARKS**
This sub-action includes the development, enactment and enforcement of legislation for minimum-age for marriage.
### ACTION 6. Insurance

#### SUB-ACTION 6a
Health insurance to increase uptake of nutrition-related health services coupled with enhanced health services and health workforce to foster good health and nutritional status

**CAUSAL LEVEL**
Underlying/Basic

**NOTES/REMARKS**
More information about nutrition-related health services is provided in the thematic areas on Micronutrient Supplementation, and Nutrition-related Disease Prevention and Management.

Some schemes (e.g. health insurance) may be incompatible with a universal healthcare approach, which is increasingly being promoted (see Kutzin, 2013).

Those who are able to contribute can be covered by health insurance while the population that is unable to contribute to health insurance can be subsidized in order to reach universal coverage (International Labour Organization [ILO], 2014).


### ACTION 7. Social norms: Education/sensitization, behaviour change communication (BCC) and social marketing

#### SUB-ACTION 7a
Promotion of uptake of reproductive and primary paediatric health services through which nutritional support is provided

**CAUSAL LEVEL**
Underlying/Basic

#### SUB-ACTION 7b
Social marketing campaigns about nutrition behaviours related to reproductive and paediatric health services

**CAUSAL LEVEL**
Underlying/Basic

**NOTES/REMARKS**
This sub-action covers: family planning and support to help optimize age at first pregnancy, family size and inter-pregnancy intervals; optimal breastfeeding; micronutrient supplementation; and other issues included in this thematic area.

#### SUB-ACTION 7c
Promotion of increased access to education, particularly for girls, to help prevent adolescent pregnancy

**CAUSAL LEVEL**
Basic

### ACTION 8. Coordination

#### SUB-ACTION 8a
Capacity development/strengthening of governance mechanisms to enable nutrition considerations regarding reproductive and paediatric health services to be raised in political fora and the coordination of coherent, multi-sectoral nutrition action at the country level

**CAUSAL LEVEL**
Basic

**NOTES/REMARKS**
This includes supporting the engagement of ministries of health and other relevant ministries in multi-stakeholder, multi-sectoral nutrition platforms – at both the decision-making and technical levels – to ensure that policies, plans and guidelines are operationalized, and that there is a coherent, multi-sectoral approach to addressing malnutrition.

### ACTION 9. Other enabling environment actions

#### SUB-ACTION 9a
Establishment of procedures for preventing and managing conflicts of interest to safeguard public health and nutrition in the engagement with stakeholders

**CAUSAL LEVEL**
Underlying/Basic
### Micronutrient Supplementation

#### POSSIBLE INTERVENTION RESPONSES

<table>
<thead>
<tr>
<th>ACTION 1</th>
<th>Micronutrient supplementation schemes in women of reproductive age</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SUB-ACTION 1a</strong></td>
<td>Intermittent iron and folic acid supplementation in non-pregnant women and adolescent girls</td>
</tr>
<tr>
<td><strong>CAUSAL LEVEL</strong></td>
<td>Underlying/Immediate</td>
</tr>
<tr>
<td><strong>EVIDENCE CATEGORY</strong></td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**
In populations in which the prevalence of anaemia among non-pregnant women of reproductive age is 20 percent or higher, WHO recommends intermittent iron and folic acid supplementation as a public-health intervention to improve menstruating women’s haemoglobin concentrations and iron status, and reduce the risk of anaemia.

In malaria-endemic areas, WHO recommends the provision of iron and folic acid supplements in conjunction with adequate measures to prevent, diagnose and treat malaria, including during pregnancy.

| **SUB-ACTION 1b** | Daily iron and folic acid supplementation in non-pregnant women and adolescent girls |
| **CAUSAL LEVEL** | Underlying/Immediate |
| **EVIDENCE CATEGORY** | Synthesized evidence |

**NOTES/REMARKS**
In populations in which the prevalence of anaemia among non-pregnant women of reproductive age is 40 percent or higher, WHO recommends daily iron and folic acid supplementation as a public-health intervention to improve menstruating women’s haemoglobin concentrations and iron status and to reduce the risk of anaemia.

In malaria-endemic areas, WHO recommends the provision of iron and folic acid supplements in conjunction with measures to prevent, diagnose and treat malaria, including during pregnancy.

| **SUB-ACTION 1c** | Folic acid supplementation in women who are trying to conceive (periconceptional folic acid supplementation) |
| **CAUSAL LEVEL** | Underlying/Immediate |
| **EVIDENCE CATEGORY** | Synthesized evidence |

**NOTES/REMARKS**
WHO recommends that all women take a folic acid supplement from the moment they begin trying to conceive until 12 weeks of gestation. Furthermore, women who have had a foetus diagnosed as affected by a neural tube defect or have given birth to a baby with a neural tube defect should: (1) receive information on the risk of recurrence; (2) be advised on the protective effects of periconceptional folic acid supplementation; (3) be offered high-dose supplementation; and (4) be advised to increase their food intake of folate.

---

* **Immediate causes**: Causes related to inadequate food intake and exposure to disease or illness. **Underlying causes**: Household and community-level factors, which may be influenced by issues such as agricultural practices, climate, lack of availability and access to safe water, sanitation, health services and education for girls, and other gender-related issues. **Basic causes**: Societal structures and processes that impede vulnerable populations’ access to essential resources. They typically stem from institutional, political, economic and social factors, including governance, trade, environmental and gender issues, and poverty.

**The following evidence categories are used in the CAN:** (1) **synthesized evidence exists**: this includes meta-analyses and systematic reviews. It should be noted however that the number of studies included in meta-analyses and systematic reviews varies across sub-actions, with some synthesized evidence based on a large number of studies and other synthesized evidence based on a limited number of studies; (2) **published primary studies exist**: no synthesized evidence exists, but evidence is published in peer-reviewed journals; and (3) **practice-based studies exist**: there is published experience-based evidence documented in the ‘grey literature’ although no evidence has been published in peer-reviewed journals – either in the form of synthesized evidence or single studies. This indicates that further research is warranted.
| ACTION 2 | Micronutrient supplementation schemes in pregnant women |
|---------------------------------|---------------------------------|-----------------|
| **SUB-ACTION 2a** | Daily iron and folic acid supplementation during pregnancy | **CAUSAL LEVEL** | Underlying/Immediate |
| **EVIDENCE CATEGORY** | Synthesized evidence |

**NOTES/REMARKS**

Daily oral iron and folic acid supplementation is recommended by WHO as part of antenatal care to reduce the risk of low-birth-weight, maternal anaemia and iron deficiency.

In malaria-endemic areas, WHO recommends the provision of iron and folic acid supplements in conjunction with measures to prevent, diagnose and treat malaria, including during pregnancy.

| **SUB-ACTION 2b** | Intermittent iron and folic acid supplementation in non-anaemic pregnant women | **CAUSAL LEVEL** | Underlying/Immediate |
| **EVIDENCE CATEGORY** | Synthesized evidence |

**NOTES/REMARKS**

In populations where the prevalence of anaemia among pregnant women is lower than 20 percent, WHO recommends intermittent use of iron and folic acid supplements by non-anaemic pregnant women as an option to prevent anaemia and improve gestational outcomes.

In malaria-endemic areas, WHO recommends the provision of iron and folic acid supplements in conjunction with measures to prevent, diagnose and treat malaria, including during pregnancy.

| **SUB-ACTION 2c** | Vitamin A supplementation in pregnant women | **CAUSAL LEVEL** | Underlying/Immediate |
| **EVIDENCE CATEGORY** | Synthesized evidence |

**NOTES/REMARKS**

Vitamin A supplementation during pregnancy as part of routine antenatal care is not recommended for the prevention of maternal and infant morbidity. In settings where there is a severe public health problem related to vitamin A deficiency (prevalence of night blindness is 5 percent or higher in pregnant women or in children 24–59 months), WHO recommends vitamin A supplementation during pregnancy (irrespective of HIV status) to prevent night blindness.

| **SUB-ACTION 2d** | Calcium supplementation in pregnant women | **CAUSAL LEVEL** | Underlying/Immediate |
| **EVIDENCE CATEGORY** | Synthesized evidence |

**NOTES/REMARKS**

In populations where calcium intake is low, calcium supplementation as part of antenatal care (including for pregnant women with active Tuberculosis [TB]) is recommended by WHO to prevent pre-eclampsia in pregnant women – particularly among those at high risk of developing hypertension.

| **SUB-ACTION 2e** | Iodine supplementation in pregnant women | **CAUSAL LEVEL** | Immediate |
| **EVIDENCE CATEGORY** | Synthesized evidence |

**NOTES/REMARKS**

WHO and UNICEF recommend iodine supplementation for pregnant women in countries where less than 20 percent of households have access to iodized salt until the salt iodization programme is scaled up. According to WHO, countries with household access to iodized salt between 20 and 90 percent should make efforts to accelerate salt iodization or assess the feasibility of increasing iodine intake through supplements or iodine-fortified foods for the most susceptible groups.

| **SUB-ACTION 2f** | Multiple micronutrient supplements in pregnant women | **CAUSAL LEVEL** | Immediate |
| **EVIDENCE CATEGORY** | Synthesized evidence |

**NOTES/REMARKS**

The most current evidence shows that giving multiple micronutrient supplements to pregnant women may reduce the risk of low-birth-weight and small size for gestational age compared with iron and folic acid supplementation alone. A WHO guideline with recommendations related to this sub-action is forthcoming.

| **SUB-ACTION 2g** | Zinc supplementation in pregnant women | **CAUSAL LEVEL** | Underlying/Immediate |
| **EVIDENCE CATEGORY** | Synthesized evidence |

**NOTES/REMARKS**

Current evidence suggests that this sub-action may help to reduce preterm births in low-income settings, but does not prevent other sub-optimal pregnancy outcomes such as low-birth-weight or pre-eclampsia.
### ACTION 3  
Micronutrient supplementation schemes in lactating women

<table>
<thead>
<tr>
<th>SUB-ACTION 3a</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily iron and folic acid supplementation in postpartum women</td>
<td>Underlying/Immediate</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

WHO recommends iron and folic acid supplementation for women for at least three months after delivery.

In malaria-endemic areas, WHO recommends the provision of iron and folic acid supplements in conjunction with measures to prevent, diagnose and treat malaria, including during pregnancy.

<table>
<thead>
<tr>
<th>SUB-ACTION 3b</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iodine supplementation in lactating women</td>
<td>Immediate</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

WHO and UNICEF recommend iodine supplementation for pregnant and lactating women in countries where less than 20 percent of households have access to iodized salt until the salt iodization programme is scaled up. According to WHO, countries with a household access to iodized salt between 20 and 90 percent should make efforts to accelerate salt iodization or assess the feasibility of increasing iodine intake through supplements or iodine-fortified foods for the most susceptible groups.

### ACTION 4  
Micronutrient supplementation schemes in infants and children

<table>
<thead>
<tr>
<th>SUB-ACTION 4a</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neonatal vitamin K supplementation</td>
<td>Immediate</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SUB-ACTION 4b</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily iron supplementation for infants and children</td>
<td>Underlying/Immediate</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

To prevent iron deficiency and anaemia, WHO recommends daily iron supplementation as a public-health intervention for infants and young children 6 months to 12 years in settings where the prevalence of anaemia is 40 percent or higher in this age group.

<table>
<thead>
<tr>
<th>SUB-ACTION 4c</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermittent iron supplementation for infants and children</td>
<td>Underlying/Immediate</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

In settings where the prevalence of anaemia in preschool (24–59 months) or school-age (5–12 years) children is 20 percent or higher, WHO recommends the intermittent use of iron supplements as a public-health intervention to improve iron status and reduce the risk of anaemia among children. In areas with a high prevalence of malaria, iron supplements should be provided in conjunction with measures to prevent, diagnose and treat malaria.

<table>
<thead>
<tr>
<th>SUB-ACTION 4d</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin A supplementation in children 6–59 months old</td>
<td>Underlying/Immediate</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

In settings where vitamin A deficiency is a public health problem (prevalence of night blindness is 1 percent or higher in children 24–59 months or serum retinol 0.70 µmol/l or lower is 20 percent or higher in infants and children 6–59 months), WHO recommends high-dose vitamin A supplementation in infants and children 6–59 months, including in populations where infants and children may be infected with HIV.

In several countries, vitamin A supplementation is also provided to postpartum women in line with their national policies, although 2011 WHO guidelines do not recommend this intervention for the prevention of maternal and infant morbidity and mortality. As described in WHO eLENA: “in settings where vitamin A deficiency and/or undernutrition is common, mothers may produce breast milk with inadequate concentrations of vitamin A. Vitamin A supplementation in postpartum women might be expected to improve maternal vitamin A status, thereby increasing the vitamin A content of breast milk and improving the health of mother and infant. Current evidence suggests however, that vitamin A supplementation in postpartum women does not reduce the risk of illness or death in mothers or their infants. Postpartum women should be encouraged to receive adequate nutrition, which is best achieved through consumption of a balanced healthy diet.”

- WHO. Vitamin A supplementation in postpartum women. eLENA. Available at [http://www.who.int/elena/titles/vitamin_a_postpartum/en/](http://www.who.int/elena/titles/vitamin_a_postpartum/en/).
### SUB-ACTION 4e - Multiple micronutrient powders for children 6–23 months old

**Causal Level**: Immediate  
**Evidence Category**: Synthesized evidence  

**Notes/Remarks**  
‘Point-of-use fortification’ and ‘home fortification’ are other terms used to refer to the use of multiple micronutrient powders. In settings where the prevalence of anaemia in children (under 2, or under 5) is 20 percent or higher, WHO recommends home fortification of foods with multiple micronutrient powders to improve iron status and reduce anaemia among infants and children 6–23 months.

Further information about this sub-action is provided in the thematic area on Food Processing, Fortification and Storage.

### SUB-ACTION 4f - Iodine supplementation in children 6–23 months old

**Causal Level**: Immediate  
**Evidence Category**: Synthesized evidence  

**Notes/Remarks**  
WHO recommends that children 6–23 months receive iodine supplements in settings where household access to iodized salt is less than 20 percent.

### SUB-ACTION 4g - Zinc supplementation in children 6–59 months old

**Causal Level**: Underlying/Immediate  
**Evidence Category**: Synthesized evidence  

**Notes/Remarks**  
This sub-action should be taken to support linear growth.

### ACTION 5 - Micronutrient supplementation in other circumstances

### SUB-ACTION 5a - Oral rehydration treatment with zinc in children under five years old

**Causal Level**: Underlying/Immediate  
**Evidence Category**: Synthesized evidence  

**Notes/Remarks**  
WHO recommends that mothers, other caregivers and health workers provide children experiencing diarrhoea with daily zinc supplementation for 10–14 days.

### SUB-ACTION 5b - Vitamin A supplementation to children with measles

**Causal Level**: Underlying/Immediate  
**Evidence Category**: Synthesized evidence  

**Notes/Remarks**  
Individuals suffering from illness may have increased nutritional requirements to fight infection or impaired nutrient absorption. In addition, there is a reciprocal relationship between measles and vitamin A status. Severe vitamin A deficiency (VAD) among children under 5 can compromise their immunity and increase their risk of morbidity and mortality from measles, among other factors (WHO, 2013).

WHO recommends that all children with measles receive vitamin A supplementation in all countries. The dosage should be increased where measles case fatality is likely to be more than 1 percent, the prevalence of vitamin A deficiency among children under 5 is high or children present clinical signs of Vitamin A deficiency according to the prevailing international guidelines (WHO, 2013).

### SUB-ACTION 5c
Micronutrient supplementation in very low-birth-weight infants

**CAUSAL LEVEL**
Underlying/Immediate

**EVIDENCE CATEGORY**
Synthesized evidence

**NOTES/REMARKS**
Very low-birth-weight (VLBW) refers to infants that weigh less than 1.5 kg.

This sub-action is part of a broader package of care and feeding support for VLBW infants, which is included in the thematic area on Nutrition Interventions Delivered through Reproductive and Paediatric Health Services.

WHO recommends that VLBW infants:

1. Who are fed their mothers’ own milk or donor human milk should be given daily iron supplementation from 2 weeks until 6 months; 
2. Should be given daily vitamin D supplements until 6 months of age; and
3. Who are fed their mothers’ own milk or donor human milk should be given daily calcium and phosphorus supplementation during the first months of life.

### SUB-ACTION 5d
Vitamin E supplementation in preterm infants

**CAUSAL LEVEL**
Underlying/Immediate

**EVIDENCE CATEGORY**
Synthesized evidence

**NOTES/REMARKS**
This sub-action is undertaken within the context of the care provided to preterm infants through birthing services.

---

### Enabling Environment

These sub-actions reflect factors that contribute to an enabling environment for nutrition, such as policy coherence, legislation, regulations, standards, trade mechanisms, social marketing, and behaviour change communication; the absence of these factors may contribute to a disabling environment. The factors listed in this section are supported by varying levels of evidence; applicable references are cited, when available. These Enabling Environment sub-actions were not classified by evidence category because they are considered to be key to fostering an enabling environment irrespective of the existing level of evidence.

### ACTION 1. Assessment and information

#### SUB-ACTION 1a
Assessment of micronutrient status

**CAUSAL LEVEL**
Underlying

**NOTES/REMARKS**
This sub-action includes the adoption of cutoffs for micronutrient deficiencies based on global standards and the availability of equipment to measure them (WHO Vitamin and Mineral Nutrition Information System [VMNIS] indicators).


#### SUB-ACTION 1b
Vulnerability assessment and early warning analysis

**CAUSAL LEVEL**
Basic

#### SUB-ACTION 1c
Promotion of operational research about nutrition impacts of sub-actions covered by this thematic area

**CAUSAL LEVEL**
Basic

#### SUB-ACTION 1d
M&E of sub-actions covered by this thematic area

**CAUSAL LEVEL**
Basic

### ACTION 2. Policy coherence

#### SUB-ACTION 2a
Policy coherence between policies/strategies on maternal/reproductive health, neonatal health, child survival and health, and adolescent health, food and agriculture (e.g. fortification) and nutrition

**CAUSAL LEVEL**
Basic
### ACTION 3. Legislation, regulations/standards, protocols and guidelines

<table>
<thead>
<tr>
<th><strong>SUB-ACTION 3a</strong></th>
<th>Legislation and standards/regulation on micronutrient supplementation and recommended doses to ensure safety for human intake</th>
<th><strong>CAUSAL LEVEL</strong></th>
<th>Basic</th>
</tr>
</thead>
</table>

**NOTES/REMARKS**
This sub-action includes the development, implementation and enforcement of legislation or regulations on micronutrient supplementation.

<table>
<thead>
<tr>
<th><strong>SUB-ACTION 3b</strong></th>
<th>Protocols for the prevention and treatment of micronutrient deficiencies</th>
<th><strong>CAUSAL LEVEL</strong></th>
<th>Basic</th>
</tr>
</thead>
</table>

**NOTES/REMARKS**
This sub-action includes the development, implementation and enforcement of these protocols, based on WHO guidance.

<table>
<thead>
<tr>
<th><strong>SUB-ACTION 3c</strong></th>
<th>Support for the registration of and other nutrition governance measures for introducing new micronutrient supplementation products, as appropriate</th>
<th><strong>CAUSAL LEVEL</strong></th>
<th>Basic</th>
</tr>
</thead>
</table>

**NOTES/REMARKS**
This sub-action includes the development, implementation and enforcement of these protocols, based on WHO guidance.

<table>
<thead>
<tr>
<th><strong>SUB-ACTION 3d</strong></th>
<th>Promotion of universal health coverage to improve access to nutrition-related health services on reproductive health, primary paediatric health care and the prevention and management of nutrition-related illnesses/diseases</th>
<th><strong>CAUSAL LEVEL</strong></th>
<th>Underlying/Basic</th>
</tr>
</thead>
</table>

**NOTES/REMARKS**
Further information about nutrition-related health services is provided in the thematic areas on Nutrition Interventions Delivered through Reproductive and Paediatric Health Services and Nutrition-related Disease Prevention and Management. In addition, universal health coverage is included in the Social Protection section.

### ACTION 4. Fiscal policy

<table>
<thead>
<tr>
<th><strong>SUB-ACTION 4a</strong></th>
<th>Taxes and subsidies to support good nutrition</th>
<th><strong>CAUSAL LEVEL</strong></th>
<th>Basic</th>
</tr>
</thead>
</table>

**NOTES/REMARKS**
This sub-action includes subsidization or removal of taxation on supplies and equipment for micronutrient supplementation.

### ACTION 5. Planning, budgeting and management

<table>
<thead>
<tr>
<th><strong>SUB-ACTION 5a</strong></th>
<th>Capacity development/strengthening to enable nutrition to be reflected in health, agriculture/food, and nutrition planning and implementation</th>
<th><strong>CAUSAL LEVEL</strong></th>
<th>Basic</th>
</tr>
</thead>
</table>

**NOTES/REMARKS**
This sub-action fosters coordinated planning and budgeting for nutrition in these areas.
### ACTION 6. Insurance

<table>
<thead>
<tr>
<th>SUB-ACTION 6a</th>
<th>CAUSAL LEVEL</th>
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</thead>
<tbody>
<tr>
<td>Health insurance to increase uptake of nutrition-related health services coupled with enhanced health services and health workforce to foster good health and nutritional status</td>
<td>Underlying/Basic</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

More information about nutrition-related health services is provided in the thematic areas on Nutrition Interventions Delivered through Reproductive and Paediatric Health Services, and Nutrition-related Disease Prevention and Management. Some schemes (e.g. health insurance) may be incompatible with a universal healthcare approach, which is increasingly being promoted (Kutzin, 2013). However, those who are able to contribute can be covered by health insurance schemes while the population that is unable to contribute to health insurance can be subsidized to reach universal coverage (ILO, 2014).


### ACTION 7. Social norms: Education/sensitization, BCC and social marketing

<table>
<thead>
<tr>
<th>SUB-ACTION 7a</th>
<th>CAUSAL LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition education and BCC on micronutrient supplementation</td>
<td>Underlying</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

Food-based approaches may be considered when designing and implementing this sub-action. Further information about food-based approaches is provided in the Food, Agriculture and Healthy Diets section.

### ACTION 8. Coordination

<table>
<thead>
<tr>
<th>SUB-ACTION 8a</th>
<th>CAUSAL LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity development/strengthening of governance mechanisms to enable nutrition considerations regarding Micronutrient Supplementation to be raised in political fora and the coordination of coherent, multi-sectoral nutrition action at the country level</td>
<td>Basic</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

This sub-action includes supporting the engagement of ministries of health, agriculture, social affairs, education and other ministries in multi-stakeholder, multi-sectoral nutrition platforms – at both the decision-making and technical levels – to ensure that policies, plans and guidelines are operationalized, and that a coherent, multi-sectoral approach is used to address malnutrition.

### ACTION 9. Other enabling environment actions

<table>
<thead>
<tr>
<th>SUB-ACTION 9a</th>
<th>CAUSAL LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establishment of procedures for preventing and managing conflicts of interest to safeguard public health and nutrition in the engagement with stakeholders</td>
<td>Underlying/Basic</td>
</tr>
</tbody>
</table>
Management of Acute Malnutrition

**POSSIBLE INTERVENTION RESPONSES**

<table>
<thead>
<tr>
<th>ACTION 1</th>
<th>Management of severe acute malnutrition (SAM)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SUB-ACTION 1a</strong></td>
<td><strong>SUB-ACTION 1b</strong></td>
</tr>
<tr>
<td>Outpatient management of SAM</td>
<td>Inpatient management of SAM</td>
</tr>
<tr>
<td><strong>CAUSAL LEVEL</strong>*</td>
<td>Underlying</td>
</tr>
<tr>
<td><strong>EVIDENCE CATEGORY</strong>**</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

WHO recommends that children 6–59 months with SAM and who have an appetite and are clinically well and alert should be treated as outpatients. These children should be given a course of oral antibiotics (e.g. amoxicillin) as part of this sub-action.

WHO also recommends that children who present with either acute or persistent diarrhoea be given ready-to-use therapeutic foods (RUTFs) in the same way as children without diarrhoea, whether they are being managed as inpatients or outpatients. Because RUTFs do not contain water, children should also be offered safe drinking water to drink at will. Breastfeeding should be continued on demand.

Finally, WHO recommends that children 6–59 months with SAM who are admitted to inpatient care for SAM management be transferred to outpatient care when their medical complications – including oedema – are resolved and when they have a good appetite and are clinically well and alert.

WHO recommends that infants under 6 months with SAM and who have any complicating factors defined by WHO be admitted for inpatient care. In addition, WHO recommends that infants under 6 months with SAM should receive the same general medical care as infants 6 months or older with SAM. Feeding approaches for infants under 6 months with SAM should prioritize establishing – or re-establishing – exclusive breastfeeding by the mother or other caregiver.

WHO furthermore recommends that children 6–59 months who have medical complications, severe oedema (even if they have no medical complications and have an appetite), poor appetite or one or more IMCI danger signs should be treated as inpatients.

The treatment or prevention of hypoglycaemia and hypothermia should be included in initial treatment provided to severely malnourished children when they are first admitted to inpatient care for SAM according to WHO recommendations. In addition, WHO recommends that all malnourished children with hypothermia should be treated for hypoglycaemia and all malnourished children with suspected hypoglycaemia should also be treated with broad-spectrum antimicrobials for serious systemic infection.

WHO recommendations also indicate that children under 5 with SAM who present with dehydration but who are not shocked should be rehydrated slowly – either orally or by nasogastric tube. Conversely, children under 5 with SAM and signs of shock or severe dehydration, and who cannot be rehydrated orally or by nasogastric tube, should be treated with intravenous fluids.

WHO recommends that all severely malnourished children receive adequate vitamins and minerals. Commercially available therapeutic milks, RUTFs and rehydration solutions for malnourished children contain a mix of micronutrients for this reason. Ready-made micronutrient mixes can also be used in the preparation of local therapeutic foods and rehydration solutions.

According to WHO recommendations, children who present with either acute or persistent diarrhoea can be given RUTFs in the same way as children without diarrhoea, whether they are being managed as inpatients or outpatients. Because RUTFs do not contain water, children should also be offered safe drinking water to drink at will. Breastfeeding should be continued on demand.

Once children are stabilized, have an appetite and oedema is reduced, transition feeding should be undertaken for children 6–59 months receiving inpatient treatment for SAM as they move into the rehabilitation phase, according to WHO.

---

**Possible Intervention Responses**

**Immediate causes:** Causes related to inadequate food intake and exposure to disease or illness. **Underlying causes:** Household and community-level factors, which may be influenced by issues such as agricultural practices, climate, lack of availability and access to safe water, sanitation, health services and education for girls, and other gender-related issues. **Basic causes:** Societal structures and processes that impede vulnerable populations’ access to essential resources. They typically stem from institutional, political, economic and social factors, including governance, trade, environmental and gender issues, and poverty.

**Evidence categories** use in the CAN include:

1. **Synthesized evidence exists:** This includes meta-analyses and systematic reviews. It should be noted however that the number of studies included in meta-analyses and systematic reviews varies across sub-actions, with some synthesized evidence based on a large number of studies and other synthesized evidence based on a limited number of studies.
2. **Published primary studies exist:** No synthesized evidence exists, but evidence is published in peer-reviewed journals.
3. **Practice-based studies exist:** There is published experience-based evidence documented in the ‘grey literature’ although no evidence has been published in peer-reviewed journals – either in the form of synthesized evidence or single studies. This indicates that further research is warranted.
## ACTION 2
Management of moderate acute malnutrition (MAM)

<table>
<thead>
<tr>
<th>SUB-ACTION 2a</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targeted supplementary feeding to treat MAM</td>
<td>Immediate</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

WHO recommends that children 6–59 months with MAM consume nutrient-dense foods to meet their extra needs for weight and height gain, and functional recovery (WHO, 2012).


<table>
<thead>
<tr>
<th>SUB-ACTION 2b</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blanket supplementary feeding</td>
<td>Underlying/Immediate</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

This sub-action targets nutritionally vulnerable population sub-groups (e.g. pregnant and lactating women, children 6–23 months and children 6–59 months), in special circumstances, which are typically linked to an external shock (e.g. natural disasters, spikes in food prices) or food scarcity during the lean season. It is time bound – lasting three to six months – and aims to prevent an increased incidence of MAM among target groups. The sub-action thereby reduces the likelihood of an increased caseload for targeted supplementary feeding.

<table>
<thead>
<tr>
<th>SUB-ACTION 2c</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhanced nutrition counselling</td>
<td>Underlying/Immediate</td>
<td>Primary studies</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

"Management of moderate acute malnutrition in children 6–59 months of age should include essential nutrition actions such as breastfeeding promotion and support, education and nutrition counselling for families, and other activities that identify and prevent the underlying causes of malnutrition, including nutrition insecurity" (WHO, 2012).

Counselling encompasses guidance on the dietary management of MAM, promoting "the optimal use of locally available nutrient-dense foods to improve the nutritional status of children and prevent them from becoming severely acutely malnourished or failing to thrive" in normal circumstances (WHO, 2012). It also involves providing information about how animal-source foods are more likely than plant-source foods to provide the nutrients required for recovering children (since anti-nutrients such as phytates and tannins found in plant-source foods impede the absorption of some micronutrients). In addition, counselling includes explaining food processing techniques for plant-source foods (e.g. fermentation, germination, malting and soaking), which can minimize these anti-nutrients (WHO, 2012).

# Enabling Environment

These sub-actions reflect factors that contribute to an enabling environment for nutrition, such as policy coherence, legislation, regulations, standards, trade mechanisms, social marketing, and behaviour change communication; the absence of these factors may contribute to a disabling environment. The factors listed in this section are supported by varying levels of evidence; applicable references are cited, when available. These Enabling Environment sub-actions were not classified by evidence category because they are considered to be key to fostering an enabling environment irrespective of the existing level of evidence.

## ACTION 1. Assessment and information

<table>
<thead>
<tr>
<th>SUB-ACTION 1a</th>
<th>Adoption of mid-upper arm circumference (MUAC) and WHO child growth standards to facilitate the identification of individuals with severe or moderate acute malnutrition</th>
<th>CAUSAL LEVEL Underlying/Basic</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOTES/REMARKS</td>
<td>See notes provided for sub-action 1b immediately below.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SUB-ACTION 1b</th>
<th>Identification of SAM in children under 5</th>
<th>CAUSAL LEVEL Underlying</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOTES/REMARKS</td>
<td>WHO recommends infants 0–5 months be identified as having SAM if their weight-for-length is less than –3 Z-scores of the WHO Child Growth Standards median or if bilateral pitting oedema is observed. WHO recommends that children 6–59 months with MUAC of less than 115 mm, weight-for-height/length of less than –3 Z-scores of the WHO Child Growth Standards median or bilateral pitting oedema should be referred to a SAM treatment centre for a full assessment. Furthermore, it advises that assessment of this age cohort should be conducted by trained community health workers and community members within communities, and by healthcare workers in primary health-care facilities and hospitals. In both settings, infants and children should be examined for bilateral pitting oedema. Children 6–59 months with a weight-for-height between –3 and –2 Z-scores of the WHO Child Growth Standards median but without oedema should be identified as having MAM and referred to appropriate nutrition support programmes for MAM. In addition, CMAM guidance uses MUAC also for identifying children with MAM.</td>
<td></td>
</tr>
</tbody>
</table>

| SUB-ACTION 1c | Vulnerability assessment and early warning analysis | CAUSAL LEVEL Basic |
| SUB-ACTION 1d | Promotion of operational research about nutrition impacts of sub-actions covered by this thematic area | CAUSAL LEVEL Basic |
| SUB-ACTION 1e | M&E of sub-actions covered by this thematic area | CAUSAL LEVEL Basic |

## ACTION 2. Policy coherence

| SUB-ACTION 2a | The production, import and use of specially formulated foods for the management of acute malnutrition are integrated into the national policies/strategies for nutrition, agriculture/food, trade and industry, social protection and any cross-cutting IYCF policies to increase policy coherence | CAUSAL LEVEL Basic |

## ACTION 3. Legislation, regulations/standards, protocols and guidelines

| SUB-ACTION 3a | Development and implementation of national protocol(s) for managing acute malnutrition based on WHO standards and guidelines | CAUSAL LEVEL Underlying/Basic |
**ACTION 4. Fiscal policy**

<table>
<thead>
<tr>
<th>SUB-ACTION 4a</th>
<th>Taxes and subsidies to support good nutrition</th>
<th>CAUSAL LEVEL</th>
<th>Basic</th>
</tr>
</thead>
</table>

**NOTES/REMARKS**
This sub-action includes the subsidization of or removal of taxation on supplies (especially formulated foods such as RUTFs and ready-to-use supplementary foods) and related inputs (e.g. fortificants/micronutrient premixes and packaging materials) for the management of acute malnutrition.

**ACTION 5. Planning, budgeting and management**

<table>
<thead>
<tr>
<th>SUB-ACTION 5a</th>
<th>Capacity development/strengthening to enable nutrition to be reflected in health, trade, agriculture/food, industry, social protection, and nutrition planning and implementation</th>
<th>CAUSAL LEVEL</th>
<th>Basic</th>
</tr>
</thead>
</table>

**NOTES/REMARKS**
This sub-action fosters coordinated planning and budgeting for nutrition in these areas.

**ACTION 6. Trade**

<table>
<thead>
<tr>
<th>SUB-ACTION 6a</th>
<th>Leverage analytical tools, capacity development efforts and governance mechanisms to enable nutrition considerations (related to the management of acute malnutrition) to be raised in international and national trade fora</th>
<th>CAUSAL LEVEL</th>
<th>Underlying/Basic</th>
</tr>
</thead>
</table>

**ACTION 7. Infrastructure and technology**

<table>
<thead>
<tr>
<th>SUB-ACTION 7a</th>
<th>Food technology support for local production of specially formulated foods for the management of acute malnutrition in accordance with prevailing international standards, developed by WHO, on local manufacturing of ready-to-use foods so as to help ensure the availability of these foods</th>
<th>CAUSAL LEVEL</th>
<th>Underlying/Basic</th>
</tr>
</thead>
</table>

**ACTION 8. Coordination**

<table>
<thead>
<tr>
<th>SUB-ACTION 8a</th>
<th>Capacity development/strengthening of governance mechanisms to enable nutrition considerations regarding the Management of Acute Malnutrition to be raised in political fora and the coordination of coherent, multi-sectoral nutrition action at the country level</th>
<th>CAUSAL LEVEL</th>
<th>Basic</th>
</tr>
</thead>
</table>

**NOTES/REMARKS**
This includes supporting the engagement of ministries of health, agriculture, industry and other ministries in multi-stakeholder, multi-sectoral nutrition platforms – at both the decision-making and technical levels – to ensure that policies, plans and guidelines are operationalized, and that a coherent, multi-sectoral approach is used to address malnutrition.

**ACTION 9. Other enabling environment actions**

<table>
<thead>
<tr>
<th>SUB-ACTION 9a</th>
<th>Availability of credit/microcredit and microfinance to farmers, agribusiness and food processors, targeting both men and women, to increase the availability of specially formulated foods used to manage acute malnutrition</th>
<th>CAUSAL LEVEL</th>
<th>Basic</th>
</tr>
</thead>
</table>

**NOTES/REMARKS**
Credit, micro-credit and microfinance can help: (1) farmers to acquire equipment and storage technologies for inputs to be used in the production of specially formulated foods (including ready-to-use foods) for managing acute malnutrition; and (2) agribusinesses and food processors to acquire food processing technologies and equipment, and ingredients for those foods.

<table>
<thead>
<tr>
<th>SUB-ACTION 9b</th>
<th>Establishment of procedures for preventing and managing conflicts of interest to safeguard public health and nutrition in the engagement with stakeholders</th>
<th>CAUSAL LEVEL</th>
<th>Underlying/Basic</th>
</tr>
</thead>
</table>
Nutrition-related Disease Prevention and Management

POSSIBLE INTERVENTION RESPONSES

<table>
<thead>
<tr>
<th>ACTION 1</th>
<th>Anti-anaemia actions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SUB-ACTION 1a</strong></td>
<td>Iron supplementation</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

“The most common cause of anaemia worldwide is iron deficiency, resulting from prolonged negative iron balance, caused by inadequate dietary iron intake or absorption, increased needs for iron during pregnancy or growth periods, and increased iron loss as a result of menstruation and helminth (intestinal worms) infestation. An estimated 50 percent of anaemia in women worldwide is due to iron deficiency” (WHO, 2014).

Refer to the thematic area on Micronutrient Supplementation for further information about iron supplementation, including evidence categorization, disaggregated by target group, and contextual factors.


**SUB-ACTION 1b**

Deworming to combat the health and nutritional impact of intestinal parasitic infections

| CAUSAL LEVEL | Underlying | **EVIDENCE CATEGORY** | Synthesized evidence |

**NOTES/REMARKS**

“Soil-transmitted helminth infections can affect nutritional status by causing malabsorption of nutrients, loss of appetite and increased blood loss. Heavy infections with whipworm and roundworm can impair growth (O’Lorcain & Holland, 2000). Hookworm infections are a major cause of anaemia in pregnant women and children. As many as one third of pregnant women in Africa are at risk of hookworm-related anaemia (Brooker, Hotz & Bundy, 2008), which in turn increases the risk of preterm delivery and low birth weight babies and, eventually, child undernutrition (Black et al., 2013).” (WHO, 2015).

Updated WHO guidance on deworming is being developed. Nevertheless, WHO recommends periodic treatment with anthelminthic (deworming) medicines for all at-risk people without previous diagnosis (including preschool-aged children, school-aged children, women of childbearing age, pregnant women in the second and third trimesters, and breastfeeding women) living in endemic areas. According to WHO, treatment should be given once per year when the prevalence of soil-transmitted helminth infections in the community is above 20 percent, and twice a year when the prevalence in the community is above 50 percent.

Education on health and hygiene reduces transmission and reinfection by encouraging healthy behaviours, which in turn safeguard nutrient absorption.

The provision of adequate sanitation is also important, but it is not always possible in resource-constrained settings (see the thematic area on Water, Sanitation and Hygiene for Good Nutrition).


(OUTCOME 1 continued ...)

**Actual causes**: Causes related to inadequate food intake and exposure to disease or illness. **Underlying causes**: Household and community-level factors, which may be influenced by issues such as agricultural practices, climate, lack of availability and access to safe water, sanitation, health services and education for girls, and other gender-related issues. **Basic causes**: Societal structures and processes that impede vulnerable populations’ access to essential resources. They typically stem from institutional, political, economic and social factors, including governance, trade, environmental and gender issues, and poverty.

**The following evidence categories are used in the CAN:** (1) **synthesized evidence exists:** this includes meta-analyses and systematic reviews. It should be noted however that the number of studies included in meta-analyses and systematic reviews varies across sub-actions; with some synthesized evidence based on a large number of studies and other synthesized evidence based on a limited number of studies; (2) **published primary studies exist:** no synthesized evidence exists, but evidence is published in peer-reviewed journals; and (3) **practice-based studies exist:** there is published experience-based evidence documented in the ‘grey literature’ although no evidence has been published in peer-reviewed journals – either in the form of synthesized evidence or single studies. This indicates that further research is warranted.
### Sub-action 2c

**Intervention:** Zinc supplementation in the management of diarrhoea

**Causal Level:** Immediate

**Evidence Category:** Synthesized evidence

**Notes/Remarks:**
According to WHO (2015), “Diarrhoea and undernutrition form part of a vicious cycle. Diarrhoea can impair nutritional status through loss of appetite, malabsorption of nutrients and increased metabolism (Caulfield et al., 2004; Petri et al., 2008; Dewey & Mayers, 2011). Frequent episodes of diarrhoea in the first 2 years of life increase the risk of stunting and can impair cognitive development (Grantham-McGregor et al., 2007; Victora et al., 2008)” (WHO, 2015). Diarrhoea has consistently been shown to be the most important infectious disease determinant of stunting (Black et al., 2013). Furthermore, “undernourished children have weakened immune systems, which make them more susceptible to enteric infections and lead to more severe and prolonged episodes of diarrhoea (Caulfield et al., 2004)” (WHO, 2015). Other empirical evidence indicates that diarrhoea can lead to wasting (Black et al., 2013). WHO recommends that mothers, other caregivers and health workers provide children with zinc supplements for 10–14 days.


### Sub-action 2d

**Intervention:** Distribution of insecticide-treated bednets for malaria control

**Causal Level:** Underlying

**Evidence Category:** Synthesized evidence

**Notes/Remarks:**
WHO recommends that all infants at their first immunization and all pregnant women as early as possible in pregnancy should receive one long-lasting insecticide-treated net in areas with intense malaria transmission (stable malaria). Bednet distribution should be accompanied with guidance on the proper use and management of insecticide-treated nets.


### Sub-action 3

**Intervention:** Diarrhoea management for improved nutrition

- **Sub-action 3a:** Zinc supplementation in the management of diarrhoea
  - **Causal Level:** Immediate
  - **Evidence Category:** Synthesized evidence

**Notes/Remarks:**
According to WHO (2015), “Diarrhoea and undernutrition form part of a vicious cycle. Diarrhoea can impair nutritional status through loss of appetite, malabsorption of nutrients and increased metabolism (Caulfield et al., 2004; Petri et al., 2008; Dewey & Mayers, 2011). Frequent episodes of diarrhoea in the first 2 years of life increase the risk of stunting and can impair cognitive development (Grantham-McGregor et al., 2007; Victora et al., 2008)” (WHO, 2015). Diarrhoea has consistently been shown to be the most important infectious disease determinant of stunting (Black et al., 2013). Furthermore, “undernourished children have weakened immune systems, which make them more susceptible to enteric infections and lead to more severe and prolonged episodes of diarrhoea (Caulfield et al., 2004)” (WHO, 2015). Other empirical evidence indicates that diarrhoea can lead to wasting (Black et al., 2013). WHO recommends that mothers, other caregivers and health workers provide children with zinc supplements for 10–14 days.


### Sub-action 3b

**Intervention:** Water, sanitation and hygiene interventions to prevent diarrhoea

**Causal Level:** Underlying

**Evidence Category:** Synthesized evidence

**Notes/Remarks:**
Refer to the thematic area on Water, Sanitation, and Hygiene for Good Nutrition. WHO guidance on drinking-water quality can be found in the WHO (2011) Guidelines for drinking-water quality.

### ACTION 3
**Nutritional care and support in HIV prevention and management**

<table>
<thead>
<tr>
<th>SUB-ACTION 3a</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant feeding counselling and support to HIV-positive mothers for improving HIV-free survival</td>
<td>Underlying</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

WHO recommends that mothers known to be infected with HIV be provided with life-long antiretroviral therapy or antiretroviral prophylaxis (for infants) interventions to reduce HIV transmission through breastfeeding. National or sub-national health authorities should decide whether health services will counsel HIV-infected mothers to breastfeed and take anti-retrovirals or to avoid breastfeeding.

In settings where national health authorities recommend breastfeeding for HIV-infected mothers, those known to be HIV-infected (and whose infants are not infected or have unknown HIV status) should exclusively breastfeed their infants for the first six months of life, introducing appropriate complementary foods thereafter, and continue breastfeeding for the first twelve months. Breastfeeding should then only stop once a nutritionally adequate and safe diet without breastmilk can be provided.

<table>
<thead>
<tr>
<th>SUB-ACTION 3b</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplementation (macronutrient for PLWHIV/AIDS and micronutrient supplementation in HIV-infected women during pregnancy)</td>
<td>Underlying</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

People living with HIV/AIDS (PLWHIV/AIDS) have increased nutrient needs (WHO, 2003; WHO & FAO, 2002). “Weight loss and undernutrition are common in people living with HIV/AIDS and are likely to accelerate disease progression, increase morbidity and reduce survival” (WHO, eLENA).


<table>
<thead>
<tr>
<th>SUB-ACTION 3c</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition counselling for adolescents and adults living with HIV/AIDS</td>
<td>Underlying</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

### ACTION 4
**Nutritional care and support for tuberculosis (TB) patients**

<table>
<thead>
<tr>
<th>SUB-ACTION 4a</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition counselling for people with TB</td>
<td>Underlying</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

"TB makes undernutrition worse and undernutrition weakens immunity, thereby increasing the likelihood that latent TB will develop into active disease. Most individuals with active TB are in a catabolic state, experience weight loss and some show signs of vitamin and mineral deficiencies at diagnosis" (WHO, 2013). Furthermore, active TB is likely to increase energy requirements (WHO, 2013). WHO recommends that all individuals with active TB should receive a nutritional assessment, and counselling appropriate to their nutritional status.

<table>
<thead>
<tr>
<th>SUB-ACTION 4b</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micronutrient supplementation in individuals with active TB</td>
<td>Underlying</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

WHO recommends that a daily multiple micronutrient supplement (at 1x recommended nutrient intake) be provided in situations when fortified or supplementary foods should have been provided for the management of moderate undernutrition but are unavailable (WHO, 2011). Moreover, WHO recommends that all pregnant and lactating women with active TB receive multiple micronutrient supplements that contain iron, folic acid and other vitamins and minerals, according to the United Nations Multiple Micronutrient Preparation (UNICEF, WHO & United Nations, 1999). WHO also recommends that calcium supplementation be included in antenatal care for pregnant women with active TB to prevent pre-eclampsia, particularly among pregnant women at high risk of developing hypertension in settings where calcium intake is low.

### ACTION 5
**Nutritional care and support of children with measles**

<table>
<thead>
<tr>
<th>SUB-ACTION 5a</th>
<th>Micronutrient supplementation to children with measles</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAUSAL LEVEL</td>
<td>Underlying/Immediate</td>
</tr>
<tr>
<td>EVIDENCE CATEGORY</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

This sub-action refers to Vitamin A supplementation in children under 5.

Individually suffering from illness may have increased nutritional requirements to fight infection or impaired nutrient absorption. In addition, there is a reciprocal relationship between measles and vitamin A status. Severe vitamin A deficiency (VAD) among children under 5 can compromise their immunity and increase their risk of morbidity and mortality from measles, among other factors (WHO, 2013).

WHO recommends that all children with measles receive vitamin A supplementation in all countries. The dosage should be increased where measles case fatality is likely to be more than 1 percent, the prevalence of vitamin A deficiency among children under 5 is high or children present clinical signs of Vitamin A deficiency according to the prevailing international guidelines (WHO, 2013).

ACTION 6
Nutritional care and support of individuals with Ebola virus disease

SUB-ACTION 6a
Supplementation to children and adults with Ebola virus disease in treatment centres

CAUSAL LEVEL
Underlying

EVIDENCE CATEGORY
Practice-based studies

NOTES/REMARKS
Little is known about the relationship between Ebola virus disease (EVD) and nutrition. Although symptoms of EVD have adverse impacts (direct or indirect) on nutrition, the nutritional requirements of EVD patients vary depending on the stage of the illness and the individuals' pre-disease nutritional status. While the Ebola virus is present in breast milk and there have been observed cases of infants of breastfeeding mothers contracting the virus, the specifics of transmission are unclear (WHO, eLENA).

According to WHO interim recommendations: (1) the nutritional needs and approach to nutritional care in any individual are determined by the patient's pre-disease nutritional status, severity of illness and age; (2) patients should be provided with the minimum recommended daily allowance for each nutrient until further evidence is available; (3) during convalescence, patients should be encouraged to eat as much as they can; and (4) patients should be provided with food if they are conscious and can swallow.


ACTION 7
Prevention and management of nutrition-related noncommunicable diseases (NCDs)

SUB-ACTION 7a
Counselling on healthy diets, using food-based dietary guidelines, and on the importance of physical activity to prevent overweight, obesity and nutrition-related NCDs

CAUSAL LEVEL
Underlying

EVIDENCE CATEGORY
Synthesized evidence

NOTES/REMARKS
Diabetes, heart disease, stroke and cancer are considered to be related to nutrition in that a healthy diet can help to protect against them (WHO, 2015).

In addition to existing evidence about this type of nutrition counselling, there is evidence that exclusive breastfeeding and reduced consumption of sugar-sweetened beverages in children and adults can help to prevent overweight and obesity.

WHO has made dietary recommendations for preventing overweight, obesity and NCDs. These recommendations cover: breastfeeding and complementary feeding practices, energy balance, fruit and vegetable consumption, and intake of fat, sodium, potassium and sugars (WHO, 2015). A WHO guideline on sugar intake in children and adults is included in the supporting CAN bibliography. Further guidance about healthy diets is outlined in WHO's (2015) Healthy Diet Fact Sheet.

Enabling Environment

These sub-actions reflect factors that contribute to an enabling environment for nutrition, such as policy coherence, legislation, regulations, standards, trade mechanisms, social marketing, and behaviour change communication; the absence of these factors may contribute to a disabling environment. The factors listed in this section are supported by varying levels of evidence; applicable references are cited, when available. These Enabling Environment sub-actions were not classified by evidence category because they are considered to be key to fostering an enabling environment irrespective of the existing level of evidence.

<table>
<thead>
<tr>
<th>ACTION 1. Assessment and information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SUB-ACTION 1a</strong> Nutritional assessment as part of routine care of HIV-infected children and individuals with active TB</td>
</tr>
<tr>
<td><strong>NOTES/REMARKS</strong></td>
</tr>
<tr>
<td>WHO recommends that children 6 months–14 years living with HIV should be assessed and provided a nutrition care plan to cover their nutrient needs associated with the HIV, and to ensure appropriate growth and development. Likewise, WHO recommends that all individuals with active TB should receive an assessment of their nutritional status (and appropriate counselling based on their nutritional status at diagnosis and throughout treatment). As part of a healthy diet low in fat, sugars and sodium, WHO suggests consuming more than 400 g of fruits and vegetables per day to reduce the risk of certain NCDs.</td>
</tr>
</tbody>
</table>

| **SUB-ACTION 1b** Nutrition assessments (e.g. weight, height, BMI, waist/hip circumference, blood pressure, diabetes) as part of prevention and management to help prevent and manage overweight and obesity and diet-related NCDs | CAUSAL LEVEL Underlying |
| **NOTES/REMARKS** | |
| These sub-actions reflect factors that contribute to an enabling environment for nutrition, such as policy coherence, legislation, regulations, standards, trade mechanisms, social marketing, and behaviour change communication; the absence of these factors may contribute to a disabling environment. The factors listed in this section are supported by varying levels of evidence; applicable references are cited, when available. These Enabling Environment sub-actions were not classified by evidence category because they are considered to be key to fostering an enabling environment irrespective of the existing level of evidence. |

| **SUB-ACTION 1c** HIV testing in pregnant & lactating women to minimize the risk of mother-to-child transmission of HIV through breastfeeding | CAUSAL LEVEL Underlying |
| **NOTES/REMARKS** | |
| This sub-action may also be carried out through reproductive health services and as part of counselling and support on recommended breastfeeding practices in the context of HIV. Refer to the thematic areas on Nutrition Interventions Delivered through Reproductive and Paediatric Health Services, and IYCF for further information. |

| **SUB-ACTION 1d** Vulnerability assessment and early warning analysis | CAUSAL LEVEL Basic |
| **SUB-ACTION 1e** Promotion of operational research about nutrition impacts of sub-actions covered by this thematic area | CAUSAL LEVEL Basic |
| **SUB-ACTION 1f** M&E of sub-actions covered by this thematic area | CAUSAL LEVEL Basic |

<table>
<thead>
<tr>
<th>ACTION 2. Policy coherence</th>
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<tbody>
<tr>
<td><strong>SUB-ACTION 2a</strong> Policy coherence between health policies and strategies which cover nutrition-related infectious diseases and NCDs, reproductive, neonatal and child health, as well as policies/strategies on agriculture/food, trade, education, social protection and nutrition</td>
</tr>
<tr>
<td>ACTION 3. Legislation, regulations/standards, protocols and guidelines</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>SUB-ACTION 3a</strong> Implementation and monitoring of the International Code of Marketing of Breast-milk Substitutes, related World Health Assembly resolutions, and national measures adopted to give effect to these</td>
</tr>
<tr>
<td><strong>CAUSAL LEVEL</strong> Underlying/Basic</td>
</tr>
<tr>
<td><strong>SUB-ACTION 3b</strong> Legislation and standards/regulation on macronutrient (food) and micronutrient supplementation and the prevailing WHO recommended doses for people with the above infectious diseases to ensure safety for human intake in view of their disease/health status</td>
</tr>
<tr>
<td><strong>CAUSAL LEVEL</strong> Basic</td>
</tr>
<tr>
<td><strong>NOTES/REMARKS</strong> Refer to the WHO guidance on these topics as referenced in the supporting CAN bibliography.</td>
</tr>
<tr>
<td><strong>SUB-ACTION 3c</strong> Food labelling in accordance with the Codex Alimentarius Guidelines and Standards, as appropriate</td>
</tr>
<tr>
<td><strong>CAUSAL LEVEL</strong> Underlying/Basic</td>
</tr>
<tr>
<td><strong>NOTES/REMARKS</strong> Food labelling (e.g. nutrient declaration, front-of-pack labelling), may include information for food tracing and advertising in order to prevent overweight and obesity, nutrition-related NCDs and diarrhoea. This sub-action includes related enforcement mechanisms.</td>
</tr>
<tr>
<td><strong>SUB-ACTION 3d</strong> Legislation and regulation to support healthy diets as part of the efforts to address overweight and obesity and diet-related NCDs</td>
</tr>
<tr>
<td><strong>CAUSAL LEVEL</strong> Basic</td>
</tr>
<tr>
<td><strong>NOTES/REMARKS</strong> This sub-action includes the development, implementation and enforcement of legislation and regulations (e.g. on portion size control).</td>
</tr>
<tr>
<td><strong>SUB-ACTION 3e</strong> Legislation and regulation of marketing of food and non-alcoholic beverages and food safety, including to children, so as to protect healthy diets</td>
</tr>
<tr>
<td><strong>CAUSAL LEVEL</strong> Basic</td>
</tr>
<tr>
<td><strong>NOTES/REMARKS</strong> This sub-action includes the development, implementation and enforcement of legislation and regulations on breastmilk substitutes and complementary foods. Advertising to children is recognized as a risk factor for obesity. WHO has developed a set of 12 recommendations, endorsed by the World Health Assembly, aimed at reducing the impact of marketing foods high in saturated fats, trans-fatty acids, free sugars and salt.</td>
</tr>
<tr>
<td><strong>SUB-ACTION 3f</strong> Formulation and implementation of national, food-based dietary guidelines</td>
</tr>
<tr>
<td><strong>CAUSAL LEVEL</strong> Basic</td>
</tr>
<tr>
<td><strong>NOTES/REMARKS</strong> Food-based Dietary Guidelines (FBDGs) should be aligned with WHO’s dietary recommendations to help to prevent malnutrition and NCDs. These recommendations cover: breastfeeding and complementary feeding practices, energy balance, fruit and vegetable consumption, and intake of fat, sodium, potassium and sugars (WHO, 2015). A WHO guideline on sugar intake in children and adults is included in the supporting CAN bibliography.</td>
</tr>
</tbody>
</table>

(Enabling Environment continued ...)

HEALTH 115
### ACTION 4. Fiscal policy

<table>
<thead>
<tr>
<th>SUB-ACTION 4a</th>
<th>Taxes and subsidies to support good nutrition</th>
<th>CAUSAL LEVEL</th>
<th>Basic</th>
</tr>
</thead>
</table>

**NOTES/REMARKS**

This sub-action includes the subsidization or removal of taxation on supplies and equipment for nutrition-related disease prevention and management.

---

### ACTION 5. Planning, budgeting and management

<table>
<thead>
<tr>
<th>SUB-ACTION 5a</th>
<th>Capacity development/strengthening to enable nutrition to be reflected in health, agriculture/food, trade, education, social protection, and nutrition planning and implementation</th>
<th>CAUSAL LEVEL</th>
<th>Basic</th>
</tr>
</thead>
</table>

**NOTES/REMARKS**

This sub-action fosters coordinated planning and budgeting for nutrition in these areas.

---

### ACTION 6. Insurance

<table>
<thead>
<tr>
<th>SUB-ACTION 6a</th>
<th>Health insurance to increase uptake of nutrition-related health services coupled with enhanced health services and health workforce to foster good health and nutritional status</th>
<th>CAUSAL LEVEL</th>
<th>Underlying/Basic</th>
</tr>
</thead>
</table>

**NOTES/REMARKS**

More information about nutrition-related health services is provided in the thematic areas on Nutrition Interventions Delivered through Reproductive and Paediatric Health Services, and Micronutrient Supplementation. In addition, universal health coverage is included in the Social Protection section.

---

**SUB-ACTION 3g**

Formulation or updating of national protocol(s) for preventing and managing nutrition-related infectious diseases and NCDs

**CAUSAL LEVEL**

Underlying/Basic

**NOTES/REMARKS**

This sub-action includes nutrition considerations to help to ensure that these protocols are nutrition-sensitive. It may also include support for the registration of new micronutrient supplementation products (e.g. to help to combat anaemia in view of its links to malaria and zinc in view of links to diarrhoea).

---

**SUB-ACTION 3h**

Promotion of universal health coverage to improve access to nutrition-related health services on reproductive health, primary paediatric health care and the prevention and management of nutrition-related illnesses/diseases

**CAUSAL LEVEL**

Underlying/Basic

**NOTES/REMARKS**

Further information about nutrition-related health services is provided in the thematic areas on Nutrition Interventions Delivered through Reproductive and Paediatric Health Services and Micronutrient Supplementation. In addition, universal health coverage is included in the Social Protection section.

---

**ACTION 4. Fiscal policy continued**

More information about nutrition-related health services is provided in the thematic areas on Nutrition Interventions Delivered through Reproductive and Paediatric Health Services, and Micronutrient Supplementation. In addition, universal health coverage is included in the Social Protection section.

---

**SUB-ACTION 3g continued**

NOTES/REMARKS

This sub-action includes nutrition considerations to help to ensure that these protocols are nutrition-sensitive. It may also include support for the registration of new micronutrient supplementation products (e.g. to help to combat anaemia in view of its links to malaria and zinc in view of links to diarrhoea).

---

**SUB-ACTION 3h continued**

NOTES/REMARKS

Further information about nutrition-related health services is provided in the thematic areas on Nutrition Interventions Delivered through Reproductive and Paediatric Health Services and Micronutrient Supplementation. In addition, universal health coverage is included in the Social Protection section.

---

**ACTION 5. Planning, budgeting and management continued**

Further information about nutrition-related health services is provided in the thematic areas on Nutrition Interventions Delivered through Reproductive and Paediatric Health Services and Micronutrient Supplementation. In addition, universal health coverage is included in the Social Protection section.

---

**ACTION 6. Insurance continued**

Further information about nutrition-related health services is provided in the thematic areas on Nutrition Interventions Delivered through Reproductive and Paediatric Health Services and Micronutrient Supplementation. In addition, universal health coverage is included in the Social Protection section.

---

**ACTION 4. Fiscal policy continued**

Further information about nutrition-related health services is provided in the thematic areas on Nutrition Interventions Delivered through Reproductive and Paediatric Health Services and Micronutrient Supplementation. In addition, universal health coverage is included in the Social Protection section.

---

**SUB-ACTION 3g continued**

NOTES/REMARKS

This sub-action includes nutrition considerations to help to ensure that these protocols are nutrition-sensitive. It may also include support for the registration of new micronutrient supplementation products (e.g. to help to combat anaemia in view of its links to malaria and zinc in view of links to diarrhoea).

---

**SUB-ACTION 3h continued**

NOTES/REMARKS

Further information about nutrition-related health services is provided in the thematic areas on Nutrition Interventions Delivered through Reproductive and Paediatric Health Services and Micronutrient Supplementation. In addition, universal health coverage is included in the Social Protection section.

---

**ACTION 5. Planning, budgeting and management continued**

Further information about nutrition-related health services is provided in the thematic areas on Nutrition Interventions Delivered through Reproductive and Paediatric Health Services and Micronutrient Supplementation. In addition, universal health coverage is included in the Social Protection section.

---

**ACTION 6. Insurance continued**

Further information about nutrition-related health services is provided in the thematic areas on Nutrition Interventions Delivered through Reproductive and Paediatric Health Services and Micronutrient Supplementation. In addition, universal health coverage is included in the Social Protection section.

---

**ACTION 4. Fiscal policy continued**

Further information about nutrition-related health services is provided in the thematic areas on Nutrition Interventions Delivered through Reproductive and Paediatric Health Services and Micronutrient Supplementation. In addition, universal health coverage is included in the Social Protection section.

---

**SUB-ACTION 3g continued**

NOTES/REMARKS

This sub-action includes nutrition considerations to help to ensure that these protocols are nutrition-sensitive. It may also include support for the registration of new micronutrient supplementation products (e.g. to help to combat anaemia in view of its links to malaria and zinc in view of links to diarrhoea).

---

**SUB-ACTION 3h continued**

NOTES/REMARKS

Further information about nutrition-related health services is provided in the thematic areas on Nutrition Interventions Delivered through Reproductive and Paediatric Health Services and Micronutrient Supplementation. In addition, universal health coverage is included in the Social Protection section.

---

**ACTION 5. Planning, budgeting and management continued**

Further information about nutrition-related health services is provided in the thematic areas on Nutrition Interventions Delivered through Reproductive and Paediatric Health Services and Micronutrient Supplementation. In addition, universal health coverage is included in the Social Protection section.

---

**ACTION 6. Insurance continued**

Further information about nutrition-related health services is provided in the thematic areas on Nutrition Interventions Delivered through Reproductive and Paediatric Health Services and Micronutrient Supplementation. In addition, universal health coverage is included in the Social Protection section.
<table>
<thead>
<tr>
<th>ACTION 7. Social norms: Education/sensitization, BCC and social marketing</th>
</tr>
</thead>
</table>
| **SUB-ACTION 7a**  
Promotion of uptake of health services for nutrition-related diseases through which nutritional interventions are provided | **CAUSAL LEVEL**  
Underlying/Basic |
| **SUB-ACTION 7b**  
Social marketing campaigns to promote health behaviours related to Nutrition-related Disease Prevention and Management | **CAUSAL LEVEL**  
Underlying |
| **NOTES/REMARKS**  
For example, by promoting the use of insecticide-treated bednets. |

<table>
<thead>
<tr>
<th>ACTION 8. Coordination</th>
</tr>
</thead>
</table>
| **SUB-ACTION 8a**  
Capacity development/strengthening of governance mechanisms to enable nutrition considerations regarding Nutrition-related Disease Prevention and Management to be raised in political fora and the coordination of coherent, multi-sectoral nutrition action at the country level | **CAUSAL LEVEL**  
Basic |
| **NOTES/REMARKS**  
This sub-action includes supporting the engagement of ministries of Health and Agriculture in multi-stakeholder, multi-sectoral nutrition platforms – at both the decision-making and technical levels – to ensure that policies, plans and guidelines are operationalized, and that a coherent, multi-sectoral approach is used to address malnutrition. |

<table>
<thead>
<tr>
<th>ACTION 9. Other enabling environment actions</th>
</tr>
</thead>
</table>
| **SUB-ACTION 9a**  
Establishment of procedures for preventing and managing conflicts of interest to safeguard public health and nutrition in the engagement with stakeholders | **CAUSAL LEVEL**  
Underlying/Basic |
## Water, Sanitation and Hygiene for Good Nutrition

### POSSIBLE INTERVENTION RESPONSES

**ACTION 1**

### Hygiene promotion to support good nutrition

<table>
<thead>
<tr>
<th>SUB-ACTION 1a</th>
<th>Handwashing education and promotion at critical periods</th>
<th>CAUSAL LEVEL*</th>
<th>EVIDENCE CATEGORY**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Underlying</td>
<td>Primary studies</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

This sub-action covers proper handwashing practices at the critical handwashing periods listed below (WHO, 2014; WHO, 2015):
1. Before preparing food or cooking;
2. Before eating or feeding a child;
3. After cleaning a child’s bottom; and
4. After defecation.


<table>
<thead>
<tr>
<th>SUB-ACTION 1b</th>
<th>Provision of handwashing supplies and handwashing stations/tippy taps</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Underlying</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

This sub-action includes the provision of water, soap and other supplies for handwashing. “Setting up dedicated handwashing stations with necessary supplies (soap and water or alcohol-based handrub solution) at key locations in households, schools, healthcare facilities and public spaces can serve as a reminder for handwashing” (WHO, 2015).


<table>
<thead>
<tr>
<th>SUB-ACTION 1c</th>
<th>Food hygiene promotion and support</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Underlying</td>
<td>Primary studies</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

This sub-action supports WHO’s 5 Keys to Safer Food:
1. Keep a clean environment for handling food (including handwashing, cleaning key surfaces and utensils, and protecting food preparation areas from insects, pests and other animals);
2. Separate raw and cooked food;
3. Cook food thoroughly;
4. Store food at safe temperature; and
5. Use safe water and raw material.

The sub-action also applies to the preparation of complementary foods (WHO, 2015).

Information about food hygiene is also included in the Food, Agriculture and Healthy Diets section.


* **Immediate causes**: Causes related to inadequate food intake and exposure to disease or illness. **Underlying causes**: Household and community-level factors, which may be influenced by issues such as agricultural practices, climate, lack of availability and access to safe water, sanitation, health services and education for girls, and other gender-related issues. **Basic causes**: Societal structures and processes that impede vulnerable populations’ access to essential resources. They typically stem from institutional, political, economic and social factors, including governance, trade, environmental and gender issues, and poverty.

**The following evidence categories are used in the CAN:** (1) **synthesized evidence exists**: this includes meta-analyses and systematic reviews. It should be noted however that the number of studies included in meta-analyses and systematic reviews varies across sub-actions, with some synthesized evidence based on a large number of studies and other synthesized evidence based on a limited number of studies; (2) **published primary studies exist**: no synthesized evidence exists, but evidence is published in peer-reviewed journals; and (3) **practice-based studies exist**: there is published experience-based evidence documented in the ‘grey literature’ although no evidence has been published in peer-reviewed journals – either in the form of synthesized evidence or single studies. This indicates that further research is warranted.
### ACTION 1 continued

#### SUB-ACTION 1d
**Environmental hygiene promotion and support for domestic hygiene**

**CAUSAL LEVEL:** Underlying  
**EVIDENCE CATEGORY:** Primary studies

**NOTES/REMARKS**
Information about environmental hygiene concerning the management of animals (e.g. keep animals away from where food is prepared and served to children) is provided in the thematic area on Livestock and Fisheries in the Food, Agriculture and Healthy Diets section.

This sub-action includes: (1) controlling disease vectors such as flies, mosquitoes, cockroaches and rats by covering food, improving drainage and safely disposing of garbage and non-reusable materials into a waste receptacle or protected pit; (2) cleaning key surfaces in latrines, basins, kitchen floors and surfaces with soap and water) and possibly disinfecting after cleaning with a dilute bleach solution, if available; and (3) providing safe areas that can be regularly cleaned where children can play (WHO, 2015).


---

### ACTION 2
**Sanitation systems and management to support good nutrition**

#### SUB-ACTION 2a
**Community approaches to improving sanitation**

**CAUSAL LEVEL:** Underlying  
**EVIDENCE CATEGORY:** Primary studies

**NOTES/REMARKS**
This sub-action includes community-led total sanitation and school-led total sanitation.

---

#### SUB-ACTION 2b
**Latrine construction and rehabilitation and excreta disposal management**

**CAUSAL LEVEL:** Underlying  
**EVIDENCE CATEGORY:** Primary studies

**NOTES/REMARKS**
This sub-action is undertaken at both the public and household levels, and includes faecal sludge management/pit emptying.

---

#### SUB-ACTION 2c
**Sanitation support for infants and toddlers**

**CAUSAL LEVEL:** Underlying  
**EVIDENCE CATEGORY:** Primary studies

**NOTES/REMARKS**
This sub-action includes:

1. Promoting the use and safe disposal of diapers (nappies); and safe cleaning of reusable cloth used to contain faeces;
2. Improving and promoting access to ‘enabling products’ such as potties and hoes that facilitate getting faeces into latrines for safe disposal; and
3. Making latrines ‘child friendly’ by partially covering latrine holes with a small board or using a slab with a child-sized hole to prevent children from falling into the pit, and improving light and ventilation (WHO, 2015).


---

#### SUB-ACTION 2d
**Sanitation support for vulnerable groups**

**CAUSAL LEVEL:** Underlying  
**EVIDENCE CATEGORY:** Primary studies

**NOTES/REMARKS**

This sub-action includes:

1. Making structural improvements to latrines and toilets (e.g. providing poles, support stoles or ropes) that can support ease of access and make them easier to use; and
2. Clearing obstacles from paths to latrines (WHO, 2015).

### ACTION 3
Water quantity and quality to support good nutrition

<table>
<thead>
<tr>
<th>SUB-ACTION 3a</th>
<th>Improvement of water supply systems and services to improve access to safe drinking water</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Underlying</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

This sub-action includes the construction or improvement of water supply systems and services such as piped water on-site, public standpipes, boreholes, protected dug wells, protected springs and rainwater (WHO, 2015).

In addition, WHO guidance on drinking-water quality can be found in the WHO (2011) guidelines on this topic.


<table>
<thead>
<tr>
<th>SUB-ACTION 3b</th>
<th>Household water treatment and safe storage support</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Underlying</td>
<td>Synthesized evidence</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

Household water treatment support frequently includes the provision of safe water kits for chemical disinfection, supplies to support filtration, heat (including boiling, pasteurization and ultraviolet radiation) and combined use of flocculants and disinfectants for safeguarding nutrition, particularly nutrient absorption (WHO, 2015).

Safe water storage, use and treatment should be practiced in households, schools and health facilities. Appropriate water-treatment technologies must consider ease of use, cultural preferences and motivations, as well as cost and availability of products (including of spare parts and consumables). WHO’s (2011) guidance on drinking-water quality provides more information.


<table>
<thead>
<tr>
<th>SUB-ACTION 3c</th>
<th>Provision of safe water during special circumstances</th>
<th>CAUSAL LEVEL</th>
<th>EVIDENCE CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Immediate/Underlying</td>
<td>Primary studies</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**

Special circumstance may include emergency contexts.

This entails integrating WASH into nutrition programming during emergencies. Cluster coordination (e.g. between the Nutrition Cluster and WASH Cluster) can be effective in these situations (WHO, 2015).

### ACTION 1. Assessment and information

| SUB-ACTION 1a | Vulnerability assessment and early warning analysis | CAUSAL LEVEL | Basic |
| SUB-ACTION 1b | Promotion of operational research about nutrition impacts of sub-actions covered by this thematic area | CAUSAL LEVEL | Basic |
| SUB-ACTION 1c | M&E of sub-actions covered by this thematic area | CAUSAL LEVEL | Basic |

### ACTION 2. Policy coherence

| SUB-ACTION 2a | Policy coherence between policies/strategies on water, sanitation, hygiene, health, agriculture, education, trade, social protection and nutrition | CAUSAL LEVEL | Basic |

### ACTION 3. Legislation, regulations/standards, protocols and guidelines

| SUB-ACTION 3a | Legislation and/or regulations on, or relevant to sanitation, water quality, environmental health and public health | CAUSAL LEVEL | Basic |

**NOTES/REMARKS**

This sub-action includes the development, implementation and enforcement of legislation and regulations on: (1) minimum latrine standards; (2) water management from source to tap; (3) water treatment; (4) water contamination; and (5) environmental and public health (as they relate to water and sanitation).

| SUB-ACTION 3b | Formulation/review of national water and sanitation standards | CAUSAL LEVEL | Basic |

**NOTES/REMARKS**

National water standards, including on contamination and radiation.
National sanitation standards, including for latrines.

### ACTION 4. Fiscal policy

| SUB-ACTION 4a | WASH-related taxes and subsidies to support good nutrition | CAUSAL LEVEL | Basic |

**NOTES/REMARKS**

This sub-action includes the subsidization or removal of taxation on WASH supplies and equipment including soap, clean water, latrines and tippy tanks.
### ACTION 5. Planning, budgeting and management

<table>
<thead>
<tr>
<th>SUB-ACTION 5a</th>
<th>CAUSAL LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity development/strengthening to enable nutrition to be reflected in health, agriculture/food, trade, education, social protection and nutrition planning and implementation</td>
<td>Basic</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**
This sub-action fosters coordinated planning and budgeting for nutrition in these areas.

### ACTION 6. Social norms: Education/sensitization, BCC and social marketing

<table>
<thead>
<tr>
<th>SUB-ACTION 6a</th>
<th>CAUSAL LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water, sanitation and hygiene education, BCC and social marketing, emphasizing the links between poor WASH and undernutrition</td>
<td>Immediate/Underlying</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**
The water aspect of this sub-action encompasses education, social marketing and BCC on water treatment and storage of drinking water while the sanitation aspect encompasses education, social marketing and BCC on sanitation management for a sanitary environment. The hygiene aspect covers proper handwashing practices at critical periods (WHO, 2014), food hygiene and environmental hygiene practices (WHO, 2015).


### ACTION 7. Coordination

<table>
<thead>
<tr>
<th>SUB-ACTION 7a</th>
<th>CAUSAL LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity development/strengthening of governance mechanisms to enable nutrition considerations regarding Water, Sanitation and Hygiene for Good Nutrition to be raised in political fora and the coordination of coherent, multi-sectoral nutrition action at the country level</td>
<td>Basic</td>
</tr>
</tbody>
</table>

**NOTES/REMARKS**
This includes supporting the engagement of WASH specialists and authorities in nutrition stakeholder forums, including multi-stakeholder, multi-sectoral nutrition platforms. Support is particularly relevant for the technical level since WASH may already be represented in high-level nutrition coordination mechanisms. This will ensure that policies, plans and guidelines are operationalized, and that a coherent, multi-sectoral approach is used to address malnutrition.

### ACTION 8. Other enabling environment actions

<table>
<thead>
<tr>
<th>SUB-ACTION 8a</th>
<th>CAUSAL LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establishment of procedures for preventing and managing conflicts of interest to safeguard public health and nutrition in the engagement with stakeholders</td>
<td>Underlying/Basic</td>
</tr>
</tbody>
</table>
POSSIBLE INTERVENTION RESPONSES

**ACTION 1. Family planning support for optimal birth spacing and to prevent teenage pregnancies as part of reproductive health services**

1a. Prevention of adolescent pregnancy


1b. Voluntary family planning and reproductive health education and support


**ACTION 2. Nutrition interventions through antenatal care, birthing services and postnatal care**

2a. Maternal, infant and child nutrition and health counselling


• WHO. 2013. WHO recommendations on breastfeeding education for increased breastfeeding duration. eLENA. Available at http://www.who.int/elena/titles/nutrition_counselling_pregnancy/en/


• WHO. 2013. Continued breastfeeding. eLENA. Available at http://www.who.int/elena/titles/continued_breastfeeding/en/

• WHO. Breastfeeding education for increased breastfeeding duration. eLENA. Available at http://www.who.int/elena/titles/breastfeeding_education/en/

• WHO. Breastfeeding education for increased breastfeeding duration. eLENA. Available at http://www.who.int/elena/titles/nutrition_counselling_pregnancy/en/

2b. Micronutrient supplementation for pregnant and postpartum women

• Please refer to the thematic area on Micronutrient Supplementation for applicable references.

2c. Long chain polyunsaturated fatty acid supplementation during pregnancy


2d. Supplementation feeding (balanced energy and protein) during pregnancy


2e. Nutrition-related illness and disease prevention and management among pregnant and postpartum women

- Please refer to the thematic area on Nutrition-related Disease Prevention and Management.

2f. Optimal timing of umbilical cord clamping for the prevention of iron deficiency anaemia among infants


2g. Support for feeding and care of low-birth-weight and very-low-birth-weight infants


2h. Kangaroo mother care


2. Institutionalization of the 10 Steps to Successful Breastfeeding in all facilities that provide maternity services, including via the implementation of the Baby-friendly Hospital Initiative (BFHI)


ACTIVITIES 3. Nutrition interventions through primary paediatric health care during early childhood

3a. Nutrition-related illness and disease prevention and management during early childhood

- Please refer to the thematic area on Nutrition-related Disease Prevention and Management for applicable references.

3b. Micronutrient supplementation in children

- Please refer to the thematic area on Micronutrient Supplementation for applicable references.

3c. Infant and young child feeding counselling

- Please refer to the references presented for sub-action 2a on Maternal, infant and child nutrition and health counselling.

3d. Vaccinations

ACTION 4. Nutrition interventions through primary paediatric health care during adolescence

4a. Counselling on healthy diets


4b. Micronutrient supplementation in adolescents

• Please refer to the thematic area on Micronutrient Supplementation for applicable references.

Enabling Environment

ACTION 1. Assessment and information

1a. Nutrition assessments as part of reproductive health services, and referral of malnourished pregnant and lactating women to nutrition programmes for the management of acute malnutrition, as appropriate


1b. Growth monitoring and promotion as part of primary paediatric health services for infants and young children


ACTION 3. Legislation, regulations/standards, protocols and guidelines

3a. Development of national growth charts


3b. Implementation and monitoring of the International Code of Marketing of Breast-milk Substitutes and subsequent World Health Assembly resolutions and national measures adopted to give effect to these


• IBFAN. The full Code, WHA Resolutions. [WHA34.22, WHA34.23, WHA35.26, WHA37.30, WHA39.28, WHA41.11, WHA43.3, WHA45.34, WHA47.5, WHA49.15, WHA54.2, WHA55.25, WHA56.32, WHA59.11, WHA59.21, WHA61.20, WHA63.23]. Geneva. Available at http://ibfan.org/the-full-code.


• WHO. Regulation of marketing breast-milk substitutes. eLENA. Available at http://www.who.int/elena/titles/regulation_breast-milk_substitutes/en/.
3c. Legislation and regulation on marketing of food and non-alcoholic beverages and food safety to protect healthy diets


- Euromonitor International Consulting Ltd. 2015. Baby food trends in Brazil and Norway. WHO.


- WHO. Reducing the impact of marketing of foods and non-alcoholic beverages on children. eLENA. Available at: http://www.who.int/elena/ titles/food_marketing_children/en/.

- WHO. Regulation of marketing breast-milk substitutes. eLENA. Available at: http://www.who.int/elena/titles/regulation_breast-milk_substitutes/en/.


3e. Legislation on minimum age for marriage to prevent child marriage and adolescent pregnancy in an effort to safeguard nutrition among adolescent girls, infants and young children


3f. Promotion of universal health coverage to improve access to nutrition-related health services on reproductive health, primary paediatric health care and the prevention and management of nutrition-related illnesses/diseases


ACTION 6. Insurance

6a. Health insurance to increase uptake of nutrition-related health services coupled with enhanced health services and health workforce to foster good health and nutritional status


ACTION 7. Social norms: Education/sensitization, behaviour change communication (BCC) and social marketing

7b. Social marketing campaigns about nutrition behaviours related to reproductive and paediatric health services


ACTION 9. Other enabling environment actions

9a. Establishment of procedures for preventing and managing conflicts of interest to safeguard public health and nutrition in the engagement with stakeholders

Micronutrient Supplementation

POSSIBLE INTERVENTION RESPONSES

**ACTION 1. Micronutrient supplementation schemes in women of reproductive age**

1a. Intermittent iron and folic acid supplementation in non-pregnant women and adolescent girls
   - WHO. Intermittent iron and folic acid supplementation in menstruating women in malaria-endemic areas. eLENA. Available at [http://www.who.int/elena/titles/iron_women_malaria/en/](http://www.who.int/elena/titles/iron_women_malaria/en/).

1b. Daily iron and folic acid supplementation non-pregnant women and adolescent girls

1c. Folic acid supplementation in women who are trying to conceive (periconceptional folic acid supplementation)

**ACTION 2. Micronutrient supplementation schemes in pregnant women**

2a. Daily iron and folic acid supplementation during pregnancy
2b. Intermittent iron and folic acid supplementation in non-anaemic pregnant women


2c. Vitamin A supplementation for pregnant women

- WHO. 2013. Vitamin A supplementation during pregnancy. eLENA. Available at http://www.who.int/elena/titles/vitamin_a_pregnancy/en/

2d. Calcium supplementation in pregnant women

- Podcast: Calcium supplementation (other than for preventing or treating hypertension) for improving pregnancy and infant outcomes. Cochrane Evidence Pods. Available at http://www.cochrane.org/podcasts/10.1002/14651858.CD007079.pub3
2e. Iodine supplementation in pregnant women


WHO. Iodine supplementation in pregnant and lactating women. eLENA. Available at http://www.who.int/elena/titles/iodine_pregnancy/en/

2f. Multiple micronutrient supplements in pregnant women


WHO. Multiple micronutrient supplementation during pregnancy. eLENA. Available at http://www.who.int/elena/titles/micronutrients_pregnancy/en/

2g. Zinc supplementation in pregnant women


WHO. Zinc supplementation during pregnancy. eLENA. Available at http://www.who.int/elena/titles/zinc_pregnancy/en/

ACTION 3. Micronutrient supplementation schemes in lactating women

3a. Daily iron and folic acid supplementation in postpartum women

- Rogers, L.M., Dowswell, T. & De-Regil, L.M. 2016 (forthcoming) Effects of preventive oral supplementation with iron or iron with folic acid for women following childbirth. Cochrane Database of Systematic Reviews.
3b. Iodine supplementation in lactating women


ACTION 4. Micronutrient supplementation schemes in infants and children

4a. Neonatal vitamin K supplementation


4b. Daily iron supplementation for infants and children

4c. Intermittent iron supplementation for infants and children


4d. Vitamin A supplementation in children 6–59 months old

- Podcast: Vitamin A supplementation for preventing morbidity and mortality in children 6 months to 5 years of age. Cochrane Evidence Pods. Available at http://www.cochrane.org/podcasts/10.1002/14651858.CD008524.pub2.

4e. Multiple micronutrient powders for children 6–23 months old

- Please refer to the references listed under sub-action 2c in the thematic area on Food Processing, Fortification and Storage (Food, Agriculture and Healthy Diets section).

4f. Iodine supplementation in children 6–23 months old


4g. Zinc supplementation in children 6–59 months old


ACTION 5. Micronutrient supplementation in other circumstances

5a. Oral rehydration treatment with zinc in children under five years old


5b. Vitamin A supplementation to children with measles


5c. Micronutrient supplementation for very-low-birth-weight infants


5d. Vitamin E supplementation in preterm infants


### Enabling Environment

**ACTION 1. Assessment and information**

1a. Assessments of micronutrient status


**ACTION 3. Legislation, regulations/standards, protocols and guidelines**

3d. Promotion of universal health coverage to improve access to nutrition-related health services on reproductive health, primary paediatric health care and the prevention and management of nutrition-related illnesses/diseases


**ACTION 6. Insurance**

6a. Health insurance to increase uptake of nutrition-related health services coupled with enhanced health services and health workforce to foster good health and nutritional status

ACTION 7. Social norms: Education/sensitization, BCC and social marketing

7a. Nutrition education and BCC on micronutrient supplementation


ACTION 9. Other enabling environment actions

9a. Establishment of procedures for preventing and managing conflicts of interest to safeguard public health and nutrition in the engagement with stakeholders

POSSIBLE INTERVENTION RESPONSES

ACTION 1. Management of severe acute malnutrition (SAM)

1a. Outpatient management of SAM

- WHO. Management of Acute Malnutrition.
1b. Inpatient management of SAM

- WHO. Management of HIV-infected children under 5 years of age with severe acute malnutrition. eLENA. Available at http://www.who.int/elena/titles/hiv_sam/en/.
- WHO. Management of infants under 6 months of age with severe acute malnutrition. eLENA. Available at http://www.who.int/elena/titles/sam_infants/en/.
• WHO. Fluid management in severely malnourished children under 5 years of age without shock. eLENA. Available at http://www.who.int/elena/titles dehydration_sam/en/.
• WHO. Micronutrient intake in children with severe acute malnutrition. eLENA. Available at http://www.who.int/elena/titles/micronutrients sam/en/.
• WHO. Therapeutic feeding of children 6–59 months of age with severe acute malnutrition and acute or persistent diarrhoea. eLENA. Available at http://www.who.int/elena/titles/diarrhoeas_sam/en/.
• WHO. Use of antibiotics in the outpatient management of children 6–59 months of age with severe acute malnutrition. eLENA. Available at http://www.who.int/elena/titles/antibiotics_sam/en/.

ACTION 2. Management of moderate acute malnutrition (MAM)

2a. Targeted supplementary feeding to treat MAM
• WHO. Supplementary foods for the management of moderate acute malnutrition in children. eLENA. Available at http://www.who.int/elena/titles/food_children_mam/en/.

2b. Blanket supplementary feeding
• WHO. Supplementary foods for the management of moderate acute malnutrition in children. eLENA. Available at http://www.who.int/elena/titles/food_children_mam/en/.

2c. Enhanced nutrition counselling
Enabling Environment

ACTION 1. Assessment and information

1a. Adoption of mid-upper arm circumference (MUAC) and WHO child growth standards to facilitate the identification of individuals with severe or moderate acute malnutrition


1b. Identification of severe acute malnutrition in children under 5 years old


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ACTION 2. Policy coherence

2a. The production, import and use of specially formulated foods for the management of acute malnutrition are integrated into the national policy/strategies for nutrition, agriculture/food, trade and industry, social protection and any cross-cutting infant and young child feeding (IYCF) policies to increase policy coherence


ACTION 7. Infrastructure and technology

7a. Food technology support for local production of specially formulated foods for the management of acute malnutrition in accordance with prevailing international standards, developed by WHO, on local manufacturing of ready-to-use foods so as to help ensure the availability of these foods


ACTION 9. Other enabling environment actions

9b. Establishment of procedures for preventing and managing conflicts of interest to safeguard public health and nutrition in the engagement with stakeholders

POSSIBLE INTERVENTION RESPONSES

ACTION 1. Anti-anaemia actions

1a. Iron supplementation

- Please refer to the thematic area on Micronutrient Supplementation for applicable references.

1b. Deworming to combat the health and nutritional impact of intestinal parasitic infections


- WHO. Deworming to combat the health and nutritional impact of helminth infections. eLENA. Available at http://www.who.int/elena/titles/deworming/en/.

1c. Intermittent preventive treatment of malaria for pregnant women


1d. Distribution of insecticide-treated bednets for malaria control


- WHO. Insecticide-treated nets to reduce the risk of malaria in pregnant women. eLENA. Available at http://www.who.int/elena/titles/bednets_malaria_pregnancy/en/.

ACTION 2. Diarrhoea management for improved nutrition

2a. Zinc supplementation in the management of diarrhoea


2b. Water, sanitation and hygiene interventions to prevent diarrhoea

Please refer to the thematic areas on Water and Sanitation and Hygiene for applicable references.

3a. Infant feeding counselling and support to HIV-positive mothers for improving HIV-free survival


3b. Supplementation (macronutrient for PLWHIV/AIDS and micronutrient supplementation in HIV-infected women during pregnancy)

- WHO. Multiple micronutrient supplementation in HIV-infected women during pregnancy. eLENA. Available at http://www.who.int/elena/titles/micronutrients_hiv_pregnancy/en/.

3c. Nutrition counselling for adolescents and adults living with HIV/AIDS

ACTION 4. Nutritional care and support for tuberculosis (TB) patients

4a. Nutrition counselling for people with TB


4b. Micronutrient supplementation in individuals with active TB

- Podcast: Calcium supplementation (other than for preventing or treating hypertension) for improving pregnancy and infant outcomes. Cochrane Evidence Pods. Available at http://www.cochrane.org/podcasts/10.1002/14651858.CD006086.pub3.
- WHO. Micronutrient supplementation in individuals with active tuberculosis. eLENA. Available at http://www.who.int/elena/titles/micronutrients_tuberculosis/en/.

4c. Management of moderate acute malnutrition in individuals with active TB

4d. Management of severe acute malnutrition in individuals with active TB

- WHO. Management of severe acute malnutrition in individuals with active tuberculosis. eLENA. Available at http://www.who.int/elena/titles/nutrition_ebola/en/.

ACTION 5. Nutritional care and support of children with measles

5a. Micronutrient supplementation to children with measles


ACTION 6. Nutritional care and support of individuals with Ebola virus disease

6a. Supplementation to children and adults with Ebola virus disease in treatment centres

ACTION 7. Prevention and management of nutrition-related noncommunicable diseases (NCDs)

7a. Counselling on healthy diets, using food-based dietary guidelines, and on the importance of physical activity to prevent overweight, obesity and nutrition-related NCDs


• WHO. Exclusive breastfeeding to reduce the risk of childhood overweight and obesity. eLENA. Available at http://www.who.int/elena/titles/breastfeeding_childhood_obesity/en/.

• WHO. Increasing fruit and vegetable consumption to reduce the risk of noncommunicable diseases. eLENA. Available at http://www.who.int/elena/titles/fruit_vegetables_ncde/en/.

• WHO. Increasing potassium intake to reduce blood pressure and risk of cardiovascular diseases in adults. eLENA. Available at http://www.who.int/elena/titles/potassium_cvd_adults/en/.

• WHO. Increasing potassium intake to control blood pressure in children. eLENA. Available at http://www.who.int/elena/titles/potassium_cvd_children/en/.

• WHO. Reducing consumption of sugar-sweetened beverages to reduce the risk of childhood overweight and obesity. eLENA. Available at http://www.who.int/elena/titles/ssebs_childhood_obesity/en/.

• WHO. Reducing sodium intake to reduce blood pressure and risk of cardiovascular diseases in adults. eLENA. Available at http://www.who.int/elena/titles/sodium_cvd_adults/en/.

Enabling Environment

**ACTION 1. Assessment and information**

1a. **Nutritional assessment as part of routine care of HIV-infected children and individuals with active TB**


**ACTION 3. Legislation, regulations/standards, protocols and guidelines**

3a. **Implementation and monitoring of the International Code of Marketing of Breast-milk Substitutes, related World Health Assembly resolutions, and national measures adopted to give effect to these**


3b. **Legislation and standards/regulation on macronutrient (food) and micronutrient supplementation and the prevailing WHO recommended doses for people with above infectious diseases to ensure safety for human intake in view of their disease/health status**


3c. **Food labelling in accordance with the Codex Alimentarius Guidelines and Standards, as appropriate**


3d. **Legislation and regulation to support healthy diets as part of the efforts to address overweight and obesity and diet-related NCDs**

- WHO. Limiting portion sizes to reduce the risk of childhood overweight and obesity. eLENA. Available at [http://www.who.int/elena/titles/portion_childhood_obesity/en/](http://www.who.int/elena/titles/portion_childhood_obesity/en/).

3e. **Legislation and regulation of marketing of food and non-alcoholic beverages and food safety, including to children, so as to protect healthy diets**

3f. Formulation and implementation of national, food-based dietary guidelines


- WHO. Increasing fruit and vegetable consumption to reduce the risk of noncommunicable diseases. eLENA. Available at http://www.who.int/elena/titles/fruit_vegetables_ncds/en/.


- WHO. Reducing consumption of sugar-sweetened beverages to reduce the risk of childhood overweight and obesity. eLENA. Available at http://www.who.int/elena/titles/sbss_childhood_obesity/en/.


3h. Promotion of universal health coverage to improve access to nutrition-related health services on reproductive health, primary paediatric health care and the prevention and management of nutrition-related illnesses/diseases

**ACTION 6. Insurance**

6a. **Health insurance to increase uptake of nutrition-related health services coupled with enhanced health services and health workforce to foster good health and nutritional status**


**ACTION 9. Other enabling environment actions**

9a. **Establishment of procedures for preventing and managing conflicts of interest to safeguard public health and nutrition in the engagement with stakeholders**

POSSIBLE INTERVENTION RESPONSES

ACTION 1. Hygiene promotion to support good nutrition

1a. Handwashing education and promotion at critical periods

- SPRING/Bangladesh. How to build your own tippy tap. Available at http://globalhandwashing.org/resources/how-to-build-your-own-tippy-tap/.
1c. Food hygiene promotion and support


1d. Environmental hygiene promotion and support for domestic hygiene


ACTION 2. Sanitation systems and management to support good nutrition

2a. Community approaches to improving sanitation

- WHO. Water, sanitation and hygiene interventions to prevent diarrhoea. eLENA. Available at http://www.who.int/elena/titles/web_diarrhoea/en/.
2b. Latrine construction and rehabilitation and excreta disposal management


2c. Sanitation support for infants and toddlers


2d. Sanitation support for vulnerable groups


ACTION 3. Water quantity and quality to support good nutrition

3a. Improvement of water supply systems and services to improve access to safe drinking water


### 3b. Household water treatment and safe storage support


• WHO. Water, sanitation and hygiene interventions to prevent diarrhoea. eLENA. Available at http://www.who.int/elena/titles/wsh_diarrhoea/en/.

3c. Provision of safe water during special circumstances


Enabling Environment

ACTION 3. Legislation, regulations/standards, protocols and guidelines

3a. Legislation and regulations on, or relevant to sanitation, water quality, environmental health and public health


3b. Formulation/review of national water and sanitation standards


ACTION 6. Social norms: Education/sensitization, BCC and social marketing

6a. Water, sanitation and hygiene education, BCC and social marketing, emphasizing the links between poor WASH and undernutrition


ACTION 8. Other enabling environment actions

8a. Establishment of procedures for preventing and managing conflicts of interest to safeguard public health and nutrition in the engagement with stakeholders