The Thirteenth Meeting of the WHO-UNICEF Technical Expert Advisory Group on Nutrition Monitoring (TEAM)

Meeting report
6 and 7 June 2022

September 2022
Acronyms

ANC  Antenatal care
BEP  Balanced energy protein supplementation
BFHI  Baby-friendly Hospital Initiative
BMI  Body mass index
CDC  Centers for Disease Control and Prevention
COVID-19  Coronavirus disease 2019
DataDENT  Data for decisions to expand nutrition transformation
DHIS2  District Health Information System Software
DHS  Demographic and Health Survey
DInA  Micronutrient Data Innovation Alliance
GNMF  Global Nutrition Monitoring Framework
IMPACT  Improving Public Health Management for Action
IYCF  Infant and young child feeding
JME  Joint Child Malnutrition Estimates
MICS  Multiple Indicator Cluster Survey
MUIC  Median urinary iodine concentration
NCDs  Noncommunicable diseases
NNIS  National nutrition information system
N4G  Nutrition for Growth (Summit)
SDGs  Sustainable Development Goals
SPA  Service provision assessment
SUN MEAL  Scaling Up Nutrition Monitoring, Evaluation, Accountability and Learning
TEAM  Technical Expert Advisory Group on Nutrition Monitoring
TOR  Terms of reference
UNICEF  United Nations Children’s Fund
USAID  United States Agency for International Development
WHO  World Health Organization
**Background**

In 2015, WHO and UNICEF established an independent Technical Expert Advisory Group on Nutrition Monitoring (TEAM) to advise on enhancing global nutrition monitoring at all levels. More information on TEAM and its activities is available at [https://www.who.int/nutrition/team/en/](https://www.who.int/nutrition/team/en/).

This report provides a summary of discussions, recommendations and decisions emanating from the thirteenth TEAM meeting, held virtually on 6 and 7 June 2022. The agenda and list of participants are included in Annexes I and II.

**Summary of presentations and discussions**

The thirteenth TEAM meeting was primarily dedicated to discussion of the TEAM 2022–2023 work plan and operational modalities. Objectives of the meeting were (1) to discuss and identify a list of priority topics that TEAM should work on in the future; (2) to present and discuss TEAM’s renewed operational modalities in the coming years; and (3) to provide an update on the progress towards ongoing activities and propose next steps and timelines for TEAM working groups.

Co-chairs Jennifer Coates and Edward Frongillo provided an overview of the progress made thus far in setting strategic priorities for TEAM. Building on the strategic planning document developed by David Hales (see the report of the twelfth TEAM meeting), the strategic planning group has met regularly and has made some progress towards identifying technical priorities and outlining governance structures and operational procedures for TEAM’s work over the next four years. One of the six recommended core strategies put forth in the strategic planning document was identifying high priority needs and opportunities and solutions for addressing them, which was discussed in session 1.

**Session 1: Identification of high priority topics and delivery of practical and timely solutions and products to address them**

During the twelfth TEAM meeting, advisers generated a list of potential TEAM priorities. The list was circulated to TEAM advisers as a basis for further discussion of priorities during the thirteenth TEAM meeting. In reflecting on these possible priorities, advisers were asked to consider what TEAM hopes to achieve in the next couple of years; what else should be prioritized and why; and what areas of work should not be continued.

Activities that TEAM is already planning or expecting to undertake include the national nutrition information systems (NNIS) technical guidance, the metrics for healthy diets, Joint Malnutrition Estimates (JME), and the assessment of adolescent anthropometry. In addition, the following topics were suggested as possible priorities:

**Anthropometry:** Clarifying meaning and the interpretation of anthropometry and focusing on nutrition and not stunting as the main target; the influence of altitude over the sea in linear growth; anthropometry data quality research questions; and anthropometry across populations (e.g., adults for obesity, elderly populations).

**Chronic diseases and overweight:** Indicators of chronic disease that should be measured (e.g., diabetes, high blood pressure); the need for monitoring diet-related chronic diseases; the difference between the undernutrition community and other communities (e.g., overnutrition).

**Coverage indicators:** Quality-adjusted and effective coverage indicators of key nutrition interventions (including quality standards to ensure that nutrition is fully operationalized and measured and to measure the quality of antenatal care services); nutrient supply contribution of different nutritional...
interventions; overlaps in interventions; breastfeeding counselling and antenatal iron supplementation indicators; and what to do when an intervention is not valid.

**Diet quality:** Diet quality and healthy diet metrics; recommendations for monitoring healthy diets.

**Specific nutrients:** Importance of long-chain essential fatty acids; assessment of haemoglobin concentrations to diagnose anaemia prevalence in individuals and populations.

**Micronutrients:** Fortification and selection of foods to carry micronutrients; establishment of biomarkers associated with vitamin A status, mainly in women; establishment of biomarkers associated with iodine status in pregnant and lactating women; vitamin D indicators; extending assessment of micronutrient status beyond iodine, iron and vitamin A; anaemia data quality assessment tools; impact of multiple micronutrient supplementation in the micronutrient status of pregnant and lactating women and in the content of breastmilk.

**Supplements:** Pervasive consumption of supplements in the United States that contributes little to diets; not monitoring the use of fortification and supplement platforms.

**Monitoring:** Understanding inputs required for high data quality (i.e., a key constraint in getting surveys implemented and done well); the connection of monitoring to guidance (e.g., for vitamin A); monitoring contextual differences that influence whether programmes are successful; monitoring in humanitarian settings; revisiting and updating progress tracking rules; setting targets in new years and supporting target-setting; continuing NNI technical notes; metrics for school-age, adolescent and women’s nutrition and input on the global nutrition monitoring framework (GNMF); situating the Global Nutrition Report within the work of TEAM.

**Global crises:** What has been learned about how COVID-19 affects nutrition and health services.

**Data needs:** Lack of data on essential nutrition actions; data scan of the Sustainable Development Goals (SDGs) and identify gaps; data on the cost of interventions and checking performance and safety; research on how to collect data well; data on wasting; disaggregated estimates for overweight; information about interventions; commitment in Nutrition for Growth (N4G) for global surveillance; environment around the population that affects access, demand and response; assessment of nutrition counselling.

**Indicators:** Need for assembling a list of core indicators at country level; gendered indicators; core indicators for assessment and policy response, considering other sectors; indicator database; need for better indicator resources; eCatelogue of indicators for micronutrient programmes (e.g., [https://extranet.who.int/indcat/](https://extranet.who.int/indcat/)); and operationalizing indicators.

**Cost and cost-effectiveness of nutrition data collection:** Considering whether cost-effectiveness is part of TEAM’s job; costs of data collection and hesitancy to reveal the costs; data collection considered as confidential or proprietary; and the costs of programmes.

**Resources:** Resources available; cost of work; efficiency, use and safety; whether TEAM should make a ‘data investment commitment’; and funding for JME work.

**Points of discussion**

Advisers discussed criteria for identifying TEAM priorities, with inputs summarized below.

TEAM should take on issues that other groups will not address and projects that may otherwise not be carried out. Advisers should not feel constrained by lack of resources as there are opportunities to secure funds for needed work with the Secretariat’s support. TEAM should identify areas where it could have a tangible impact in the next five years and use that to help prioritize areas of work.
TEAM should prioritize topics that contribute to the global public good and where a multi-country view would be useful. Opportunity and urgency are also important criteria. The Micronutrient Data Innovation Alliance (DInA), an initiative of the Micronutrient Forum, is also involved in identifying new metrics and indicators. TEAM should have a role in this effort.

TEAM should prioritize its work based on the needs of country governments and global decision-making bodies, as these are its primary audiences. This support is crucial to help WHO and UNICEF respond to monitoring requests from countries and guide them in tracking progress towards the SDGs. There may be opportunities to survey country office colleagues to identify additional nutrition data and monitoring needs. UNICEF noted the following country priorities: diet quality; NNIS guidance; data collection through routine information systems (including via the District Health Information System software (DHIS2)); impact of the Ukraine crisis on nutrition; data quality concerns for surveys and technical support requests for implementing surveys; analysing progress towards SDG indicators; building country capacity on the use of TEAM products, such as the data quality report. WHO also noted the following country priorities: vitamin D status assessments; haemoglobin thresholds for defining anaemia; monitoring healthy diets; indicators for monitoring the nutrition of school-age children and adolescents; indicators related to preterm birth and gestational weight gain.

Following the TEAM strategic plan, TEAM should focus on broader themes and then identify strategic priorities within those themes. This will help define the parameters in which TEAM will work, encourage longer-term thinking and help identify focus activities for the next five years. At the same time, it was also noted that TEAM should be opportunistic or responsive when new opportunities arise that would benefit from TEAM’s contribution.

In summary, the criteria identified included: urgency (in terms of importance rather than immediacy), clear global priority, global good, resources can be mustered, will have impact in the next five years, responds to the needs of country governments and the global bodies that advise them, and avoids initiatives that are donor-driven. TEAM should also be involved if it has something to offer to a given task.

Another priority for TEAM could be in reviewing, endorsing or providing input on UNICEF and WHO products and initiatives, which would not require a time-intensive contribution from advisers.

Session 2: Expansion of TEAM’s scope of work and capacity – global needs and TEAM capacity to address them

This session aimed to respond to the questions outlined in the TEAM strategy document, which was presented during the twelfth TEAM meeting.

On the question of how to make better use of TEAM members expertise, advisers noted the need to clarify expectations, including around working group leadership. Each TEAM member should be expected to lead one working group and be a member of at least two working groups. The expectations of working group leads should also be clarified, such as facilitating regular calls, leading implementation of the group workplan and other tasks to be defined.

On the question of how expectations of TEAM members could be balanced with their pro bono status, it was noted that TEAM advisers typically contribute one to two working days or 10 to 15 hours a month to TEAM activities. A member’s ability to contribute time to TEAM activities is also linked to the level of institutional support from their employer and the institution’s expectations of their role on TEAM.

On the question of term limits, there was general agreement that membership should be subject to term limits and that terms for current members should be staggered to ensure continuity. The
administrative burden of recruiting new members was also noted. TEAM members can also participate in nominating new members to reduce the burden on the Secretariat. It was decided that Co-chairs and the Secretariat would define a more concrete proposal for how to implement term limits.

On the question of what support would be needed from the Secretariat, advisers noted the need for more project, administrative and coordination support for working groups. To encourage active participation among all members and diversify TEAM membership, there were suggestions to identify gaps in expertise and to consider opportunities to recruit and provide financial support to advisers who are independently employed and therefore unable to make the same pro bono contribution to TEAM.

Session 3: Specific examples of topics that TEAM should take on in the future and why

3a. Adolescent anthropometry

There has been interest in improving adolescent growth assessment and addressing data gaps for this age group, particularly given rapid physical, cognitive and psychosocial growth and development that occur during this time and its relationship to adult noncommunicable diseases, pregnancy outcomes and overall health and nutritious status. Yet there is a lack of standardized methods for assessing growth faltering and body fat excess and for monitoring to improve the nutrition status of this age group globally.

An expert group meeting held in 2006 emphasized the need to harmonize growth assessment tools. It also noted that existing growth references for school-aged children and adolescents had shortcomings and there was a need to develop appropriate growth references for use in clinical and public health settings. The expert group meeting highlighted that sub-populations exhibit similar patterns of growth when exposed to similar external conditioners of growth.

Because gathering new data to construct a global standard was infeasible, an interim solution was undertaken to reconstruct the 1977 reference based on raw data from the United States, applying methods used for growth standards for children under age 5. The aim was to provide a global reference for screening, surveillance and monitoring of overweight and obesity, and to close the gap between the WHO child growth standards and the 1977 growth reference. This resulted in the 2007 WHO growth reference.\(^1\) There are several limitations of the 2007 reference: it is descriptive and based on a single country population; the body mass index cut-offs focus on overweight and cut-offs for undernutrition lack evidence; the underlying sample is based on old data collected when body composition may have differed; and the process for developing the reference lacked consensus among stakeholders, which has affected its adoption.

There are several issues to consider in revisiting growth assessment for school-age children and adolescents. Some of these include:

1. Whether it is important to have a sample that is pre-obese
2. Secular trends in height that occur towards the end of adolescence
3. Relationship of other anthropometric indicators (e.g., waist circumference, subscapular skinfold) to biochemical and clinical indicators and morbidity
4. Appropriateness of anthropometric measurements to characterize fat versus lean mass in children and adolescents (e.g., mischaracterization of the rise in body mass index (BMI) between 6 and 8 years as adiposity rebound rather than a rise in lean mass)
5. Appropriateness of the global reference for estimating fat mass from BMI in adolescents
The process will require coordination between WHO and UNICEF, with the engagement of national health and education agencies and partnerships with research communities and donors. Next steps are as follows:

1. Form a Technical Advisory Group comprising different capacities and expertise
2. Develop background material for an expert consultation
3. Develop a research agenda with the aim of filling evidence gaps on the associations between nutrition indicators, specific cut-offs and health risks
4. Develop guidance on how to interpret existing growth references, cut-offs and prevalence estimates within the context of ongoing undernutrition and an increasingly obesogenic environment, and reflect on the applicability of indicator constructs for this age group
5. Explore if and how malnutrition cut-offs can be harmonized across age groups
6. Assess the need for and feasibility of creating a globally representative and contemporary growth reference for children and adolescents 5–19 years of age using existing and/or new data
7. Move towards consensus for recommendations
8. Develop tools that will help countries implement growth monitoring systems for school-age children and adolescents

The timeline for these next steps is dependent on resources. The proposal is to carry-out background literature analyses (September to December 2022); convene the first technical consultation on the research agenda to address steps 3–6 (January to March 2023); develop research pieces related to steps 3–6 and convene a final expert consultation to study several research pieces and achieve consensus (March to November 2023); present recommendations to the World Health Assembly (May 2024); and develop tools to support countries in implementing growth monitoring systems for school-age children and adolescents (June to December 2024). The concept note has been provided to a donor that has expressed interest in supporting this work.

Points of discussion

There was some discussion about complementarities and potential overlap between this work and other initiatives related to adolescent nutrition, such as the UNICEF-led Technical Advisory Group on Metrics for School-age Children and Adolescents and the National Institutes of Health BOND-KIDS Project. The former group has the aim of developing a global monitoring framework, including a set of indicators for the nutrition of school-age children and adolescents that would cover a range of dimensions, such as nutrition status, diet quality, interventions and contextual or policy factors. The latter project includes an assessment group that addresses anthropometry; it will be important to coordinate with this group via UNICEF, WHO and advisers Edward Frongillo and Rafael Flores-Ayala who are part of the steering committee.

The Demographic and Health Survey (DHS) Program has a stratified sample in which adolescent growth standards are being applied for 15–19-year-olds and the adult standards are being applied for men and women 20 years of age and older. The data are presented separately, and it is unclear what impact this will have on global indicators, which tend to report on 15–49-year-olds as one group. This approach will be used in the next surveys and countries may need support to navigate this change. TEAM could contribute to addressing this as part of work in this area. Once some of the key assessment issues for adolescents are resolved, there will be an opportunity to consider the assessment gaps between adolescents and adults.
Maturation was noted as an important factor in anthropometry and is a critical part of the information to collect about school-age children and adolescents.

There was some discussion about opportunities to assess and articulate the contribution of nutrition to physical growth and anthropometric outcomes versus other environmental factors. In the overall framing and dialogue around the issue, it may be important to consider the appropriateness of terms such as overnutrition to refer to larger body size without accounting for growth hormone disturbances in the context of environmental changes. In India, for example, the Comprehensive National Nutrition Survey showed that even children not classified as overweight had high haemoglobin A1c and other biomarkers that put them at risk of poor blood sugar metabolism. Reconciling some of these issues could be an important contribution to adolescent health, particularly in countries such as India with a large population of adolescents. In addition, the assumptions made about anthropometry for young children and adolescents do not necessarily translate to adolescents. It will therefore be important to consider whether anthropometry is the most effective means of achieving the broader objective of assessing the role of nutrition in the health and well-being of adolescents and/or whether other indicators may be more effective.

3b. Simple biomarkers of vitamin A and iodine for pregnant and lactating women are not associated with metabolic functions

There are no indicators for micronutrient deficiencies within the SDG framework, except for anaemia prevalence, which can be caused by a range of factors including micronutrient deficiencies.

Vitamin A deficiency among women is not being identified through population surveys because the criterion is similar to that one for preschool age children; however, it likely exists. Iodine is critical during pregnancy to prevent adverse neurodevelopmental outcomes, yet in cases of mild iodine deficiency, iodine supplementation does not improve maternal or infant thyroid hormone concentrations. Most countries have achieved iodine sufficiency for almost every member of the family. However, there are concerns about iodine deficiency for pregnant women because the criterion of 150 µg I/L is being used. This criterion was selected without any technical background; it makes the assumption that because iodine requirements are larger for pregnant women, then the excretion of iodine in urine should also be larger. However, this assumption does not consider that iodine metabolism may be different during pregnancy.

The results of various earlier studies on children (before the control of iodine deficiency in several countries) suggest that iodine concentration cannot be used to identify the iodine status of an individual, but the median is applicable to populations. If the median is 100 ug iodine/L, the whole population is considered as having sufficient intake of iodine. The studies found that very small amounts of iodine can correct iodine deficiency when iodine does not already exist in the environment, as the body can more readily absorb more iodine. This means that when individuals live in an environment with very low iodine supply, their body will absorb iodine more effectively.

Studies suggest that physiological adaptations occur during pregnancy to maintain normal thyroid function over a wide range of iodine intakes, allowing pregnant women to metabolize iodine much more efficiently. In any given population, if children and women of reproductive age have iodine sufficiency, then the rest of the population will as well, including pregnant women. In any case, it is important to confirm this and define a more accurate MUIC during pregnancy. There is therefore a need to advocate for a review of WHO iodine indicators, especially during pregnancy.

Surveys are not finding vitamin A deficiency in women, but it might exist in many communities, with serious health consequences including death. Studies on the effectiveness of food fortification with vitamin A have helped identify criteria for identifying vitamin A deficiency. Thresholds for identifying
vitamin A deficiency were applied to preschool age children. The most recent criteria (WHO 1996) and Annecy (2000) to assess vitamin A deficiency were based on children; there is no serum retinol for other age groups, but the criterion for preschool-age children has been used without metabolic support for women of child-bearing age. Serum vitamin A concentration increases with age and this change is likely metabolic. Therefore, there is a need to determine the normal vitamin A concentration for women in order to identify appropriate thresholds and identify populations vulnerable to deficiency.

In summary, serum retinol is a proxy for estimating vitamin A status in populations, but criteria are imprecise. Therefore, this indicator must be interpreted together with other indicators of vitamin A status. The current threshold for serum retinol is specific for preschool-age children and was selected as a compromise to the limitations of the ultraviolet–visible spectroscopy (UV/Vis) methodology and for predicting risk rather than for demonstrating deficiency. There is no threshold of serum retinol for women of childbearing age (and during pregnancy and lactation). The concentration of retinol in breastmilk may be a valid surrogate for estimating vitamin A intake, but more studies are needed.

3c. Core standardized set of nutrition counselling indicators

The DHIS2 nutrition module was launched in December 2021 and covers recommended indicators related to anthropometry, infant and young child feeding (IYCF), maternal nutrition, micronutrients, wasting and emergencies.

The minimum core set of indicators for IYCF counselling capture whether counselling was delivered. The quality of counselling can be assessed via outside mechanisms, such as supportive supervision or periodic community surveys. There was consensus to use this relatively simple indicator because most countries are still using paper-based reporting systems. However, in the forthcoming guidance on administrative data, UNICEF recommends a set of optional indicators for countries with electronic systems or individual tracking systems that can be used to assess age-appropriate counselling (e.g., the mother and child are considered counselled only if they received counselling on feeding practices that are appropriate for the age of the child or stage of pregnancy).

Three core indicators for measuring whether counselling was delivered at the health facility and the community level include: counselling during the antenatal care (ANC) period, counselling during the postnatal period and beyond (for children 0–5 months), and counselling during the postnatal period and beyond (for children aged 6–23 months). Service-based denominators are used (i.e., total number of ANC contacts in the reporting period at health facilities) rather than population-based denominators. There are also two additional indicators to capture counselling during sickness and healthy eating.

Similarly, indicators on maternal counselling also capture whether counselling occurred. There is a generic maternal counselling indicator that captures whether counselling occurred on any nutrition and health-related topic. There is also a specific maternal nutrition counselling indicator to measure whether counselling occurred on any of the six nutrition topics (see endnote 7).

The core indicators focus on the provision of maternal nutrition counselling to improve dietary practices, weight gain and related behaviours during pregnancy and in the initial postnatal period. There are separate indicators for the antenatal and postnatal periods and for the health facility and community level.

UNICEF is looking for opportunities to pilot test some of these indicators, particularly for age-appropriate IYCF counselling. Where countries have individual tracking and longitudinal records, UNICEF would like to measure adherence to the WHO guideline of at least six counselling contacts. The pilot testing will help determine the feasibility of collecting such data through administrative systems.
There are challenges in measuring whether the activities taking place can be defined as counselling. The indicators are more aligned with measuring nutrition education rather than the two-way interaction required of counselling. Advisers were asked whether they were concerned that the current definitions dilute the specificity of counselling as an intervention by using such broad definitions and whether the current definitions should be enhanced to better capture these features, such as quality and methods.

**Points of discussion**

There was some discussion about the specificity of balanced energy protein (BEP) supplementation as one topic area in maternal nutrition counselling, and whether it would be better to ask whether food insecure or undernourished populations are getting some form of food assistance. One adviser noted a lack of clarity around what BEP is and what it includes. If TEAM is working on BEP coverage indicators, it would be important to provide greater detail on what these supplements could include. The topic of BEP supplementation is aligned with the WHO guidance on ANC and is part of the core set of questions; however, countries can adapt questions to their specific programmes. It is hoped that these questions will be validated as a next step.

Regarding the definitions for DHIS2 counselling indicators, several advisers felt that a more detailed definition to distinguish counselling from education could be too restrictive and would result in low counselling figures. Rather, for programme purposes, it would be better to use indicators that at least capture whether mothers are being reached with some form of information or education; then, a separate mechanism could be used to assess the quality of that information and the interaction with the health provider.

For population-level monitoring, where mothers are responding to survey questions themselves (rather than the health provider) it would be useful to address the distinction between counselling and education. For example, mothers could be asked if they had an opportunity to ask questions in their interaction with the health provider as a way of determining whether counselling or education took place. Some qualitative work and validation would be required to take this forward.

Given the challenge of distinguishing between education and counselling in the DHIS2 questionnaire, one adviser suggested that it be labelled as nutrition education, with the rationale that programmes seek to implement counselling, but this indicator can only measure education. However, others felt that using the term nutrition education could create the misperception that education alone is sufficient.

It was noted that limited validation had been carried out for the new DHS IYCF counselling indicators and more was still needed. In addition, validation is needed for the counselling on nutrition questions included in the service provision assessment (SPA) survey.

**3d. Extension of global nutrition targets to 2030 and global action plan on the prevention and management of anaemia**

Six global nutrition targets were set in 2012 as part of the Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition and were endorsed by the World Health Assembly in resolution 65.5. Member States requested WHO to clarify how the 2025 targets would align with the 2030 SDGs. In 2017, TEAM conducted an analysis of the effect of extending the targets to 2030 and presented proposed targets based on the results. In 2018, the Executive Board of the World Health Assembly, having considered the biennial report on the Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition, decided (in EB142(6)): (1) to note the analysis on the extension to 2030 of the 2025 targets on maternal, infant and young child nutrition; (2) to approve the four remaining indicators of the GNMF, as set out in this report; and (3) to invite Member States to
consider the full list of indicators in their national nutrition monitoring frameworks and report in accordance with decision WHA68(14) (2015).

Given this background, advisers were asked to consider three questions:

- Is a more formal decision on the extension of the targets needed?
- Should the mid-term review of the SDGs be used as an opportunity to revisit the proposed targets based on the evidence and lessons learned?
- What are the implications of current discussions on anaemia cut-offs for the current monitoring of the global target for reducing anaemia in women of reproductive age?

Should TEAM wish to revise global nutrition targets for 2030, the following steps would need to be taken: (1) TEAM Secretariat prepares additional background material to inform discussions; (2) TEAM makes recommendations and produces a report; (3) report is presented to the Executive Board in January 2024 and, if requested, to the World Health Assembly in 2024; and (4) guidelines and tools are revised to incorporate new targets. In addition, it will be important to consider how the potential revisiting of anaemia targets in women of reproductive age would align with current discussions on anaemia cut-offs (see page 15). There is also interest in developing a global nutrition target on anaemia in children to bring greater visibility to the problem.

The WHO Department of Nutrition and Food Safety is working collaboratively with other WHO departments and external partners to develop a global action plan on anaemia, with the overall objective of providing strategic, effective and implementable actions for reducing anaemia in countries to achieve better health and well-being. Within the global action plan, there have been proposals to develop anaemia targets for women, adolescent girls and children. Advisers were asked whether TEAM should encourage the establishment of such targets. And if these targets were to be developed, advisers were asked to consider how they would be differentiated from the global nutrition target on anaemia in women of reproductive age.

Points of discussion

There was general agreement that TEAM should be involved in revising the extension of the 2030 targets. The anaemia target was selected based on declining trends; however, most countries have reached a plateau in anemia prevalence and the current target is therefore unachievable, even by the year 2030. Adjusting the target is particularly important given concerns about the current measurement methods being used and their influence on anaemia trends. However, it will be challenging to select a target when trends are flat or increasing, and additional work may therefore be needed to examine the causes of this plateausing before setting a new target.

Many advisers felt that targets should be revised to include anaemia reduction in children. Since anaemia in women is already an SDG indicator, only a minor revision would be needed to expand the age group for monitoring. UNICEF will contact the SDG Secretariat explore whether there is a simplified process for such a revision.

It will be challenging to revise the SDG anaemia indicator without stronger language and endorsement from the Executive Board of the World Health Assembly. While there is tacit approval in EB142(6), the language is vague. It would be helpful to have a new decision with stronger language; however, it is not clear whether or how this could be achieved. Any proposed changes would need to be prepared in 2023 to be ready for the Executive Board meeting in January 2024, where the issue will be on the agenda.
The Working Group membership has expanded and now comprises 18 members. The Food and Agriculture Organization of the United Nations (FAO) is now officially co-sponsoring the Working Group, along with UNICEF and WHO.

The Working Group on Diet Quality has two overarching objectives in its work plan. The first is to develop consensus around the constructs that comprise a healthy diet, determine which are most important to measure, and map existing metrics against priority constructs to identify gaps. The Working Group had originally planned to develop a consensus definition of a healthy diet, but is now proposing to drop this activity. The second objective is to develop a healthy diets metrics assessment. This includes developing a comparative framework that enables users to distinguish the relative strengths, weaknesses and appropriateness of different metrics of a healthy diet for a range of purposes. This work will draw on material developed during the 2021 technical consultation on measuring healthy diets, as well as on new publications and empirical evidence, to populate the framework.

The full Working Group meets monthly, while the sub-group meets bi-weekly. The Working Group has engaged a team of consultants from IRD (Institut de Recherche pour le Développement) to support objective two, with deliverables expected to be ready in October 2022. Edward Frongillo, through his work with the United States Department of Agriculture, is leading a process to develop consensus on healthy diet constructs, which will support objective one.

WHO, UNICEF and FAO are also developing a joint high-level strategic plan on diet quality measurement. The plan will guide Working Group activities and support resource mobilization for this agenda. The Rockefeller Foundation has expressed an interest in funding a portion of this work. Members of the Working Group on Diet Quality will meet with the nutrition heads of WHO, UNICEF and FAO, along with the Rockefeller Foundation and the Bill & Melinda Gates Foundation, to form an agreement on the strategic agenda.

Points of discussion

There was a question about possible involvement of metrics developers in the Working Group on Diet Quality. Metrics developers have not been included as members of the Working Group because the group’s main focus currently is to undertake a comparative assessment across metrics. There is strong advocacy by metrics developers to have their specific metric selected, and it would therefore be difficult for them to participate impartially in this assessment process. However, the Working Group hopes to engage metrics developers and invite them to join the Working Group once this assessment phase has been completed.

The definition of a healthy diet is grounded in culture and shaped by social and political factors that vary by context. There was some discussion about how to ensure that the perspectives of low- and middle-income countries and a broad range of cultures were reflected in constructs and definitions of a healthy diet. A review of dietary guidelines across countries done by Herforth, A. et al. found good convergence on key constructs of a healthy diet. The next step is to determine how those constructs are operationalized into metrics. For example, many metrics developers are carrying out groundwork to understand which foods in a culture comprise a food group, with the aim of ensuring comparable data.

Given the influence of culture and other contextual factors in defining what healthy diets are/are not, the Working Group should aim instead to define what nutritional constructs and subconstructs are needed to support optimal health and development. This includes gaining clarity and consensus on
characteristics such as viability of the diet, adequacy and quality. Outside of the nutrition community, there are diverse and varying understandings of what constitutes a healthy diet (e.g., the term may be associated with food safety or food security rather than nutritional adequacy). FAO and WHO have established guiding principles for a healthy diet, which are published in the 2022 State of Food Security and Nutrition Report. These principles address biological rather than cultural elements. However, the biology of diets and nutrition is defined by those with economic, cultural and racial privilege, meaning that culture defines what is biologically appropriate or not from a nutrition perspective.

USAID would like to sponsor the participation of three individuals from low- and middle-income countries as members of the Working Group on Diet Quality. Ideally, these would be members with expertise in linking food production and quality with climate change.

4b. Working Group on Nutrition Information Systems

The National Nutrition Information System (NNIS) five-module Fundamentals Series was published in December 2022. With the support of the Global Nutrition Cluster, the NNIS e-course is also available online. There has been slow progress in publishing new NNIS Technical Notes. Five Technical Notes have been completed and two more are in progress. WHO has identified funds for developing some of the remaining nine technical notes. Advisers were encouraged to make suggestions of consultants able to support this work.

Dissemination is critical for all TEAM products; it should not be ad hoc or a pro bono activity. For dissemination of the NNIS Fundamentals Series and Technical Notes, TEAM can leverage the support of the consultant developing the dissemination strategy for DHIS2. Dissemination will include developing presentations and hosting webinars to engage countries and partners, adapting materials and ensuring products are shared via listservs, social media and other venues. The consultant will keep abreast of important regional and country meetings and other opportunities to disseminate the materials. Other potential dissemination opportunities include the new structure of the Scaling Up Nutrition Monitoring, Evaluation, Accountability and Learning (SUN MEAL) group, the Nutrition Data Partners Group and the Nutrition Data Community of Practice. Dissemination will be supported by USAID.

Once several NNIS Technical Notes are ready, it will be important to solicit feedback on how they are being received by users. The Scaling Up Nutrition Movement Secretariat has indicated that many countries need technical assistance for NNIS; TEAM can leverage these opportunities to engage with users and request feedback on the content.

Points of discussion

In addition to the NNIS Working Group, there is a small group that meets monthly about the NNIS Technical Notes. Working Group members review the Technical Notes, and other experts can also be invited to review and be acknowledged within the document. There was a suggestion for the NNIS Working Group to consider mobilizing resources to engage an outside institution to coordinate activities.

It was agreed that soliciting feedback on the NNIS Fundamentals Series and Technical Notes would be critical to ensuring whether they are meeting the needs of the intended audience.

4c. Haemoglobin/Anaemia Working Group

With funding from USAID and WHO, the Working Group is in the process of hiring consultants to support the development of a series of technical notes on anaemia. Technical note one is focused on optimizing the current haemoglobin assessment quality (i.e., using available tools and data as effectively as possible to analyse anaemia); technical note two will summarize the forthcoming WHO guidelines on
haemoglobin assessment and their operationalization; and technical note three will undertake a critical analysis of evidence, including gaps to be filled.

WHO convened a second Guidelines Development Group meeting in June–July 2022 to formulate recommendations on the use and interpretation of haemoglobin concentrations for assessing anaemia status in individuals and populations and determining their strength, taking into account benefits, harms, values and preferences, feasibility, equity, ethics, acceptability and resource requirements. Current cut-offs and any adjustments for altitude and smoking were reviewed as part of this process, as well as analytical and pre-analytical aspects of haemoglobin determination for operationalization of results (i.e., the use of venous or capillary blood samples and the recommended equipment for haemoglobin determination).

Evidence suggests that there may be variation (either systematic or random) in haemoglobin concentration values measured using field-suitable techniques, and that the true value may be under or overestimated. Preanalytic factors affecting measurement of haemoglobin concentration are related to the source of blood (capillary versus venous), which may result in important differences in haemoglobin concentration that impact on the estimate of anaemia prevalence. Analytic factors, arising due to differences between analytic techniques (i.e., different instruments) may also be important. If there are differences in haemoglobin concentrations between venous and capillary surveys or between instruments, global estimates of the prevalence of anaemia will be incorrect.

Blood sample collection site, measurement device, methodological errors, individual variations and other factors have been reported to influence haemoglobin concentration. There is evidence supporting a biological variability between capillary and venous blood after accounting for device and sampling variability and/or error, the magnitude of which is likely variable by sex, age and other factors. Although it is easier to control all potential factors influencing the quality of the measurement and interpretation in more controlled settings than in less controlled field settings, high-quality data can be obtained in all settings. This is an opportunity for the TEAM Anaemia Working Group to advise WHO on available evidence, guidance and identifying research needs, especially regarding the use of one drop or pooled capillary blood.

The TEAM Anaemia Working Group is complementing other efforts to improve anaemia assessment (e.g., those of the USAID HEME research group and the Anaemia Exemplars group) by focusing on how to make results more reliable. For example, the first technical note aims to address the lack of consistency in the way in which countries are applying the WHO guideline. Additional technical notes could address topics such as: summarizing what data to collect; triangulating across initiatives (e.g., providing guidance on how countries can make sense of the different initiatives related to haemoglobin assessment); and other indicators that are linked to anaemia. The Anaemia Working Group should also promote assessment of the etiological factors of anaemia.

The consultant will convene experts to begin working on the technical notes. Currently, there is a budget to complete at least two technical notes. The aim is to have at least one technical note completed by August or September 2022; however, the timeline will depend on when the revised WHO guideline is released.

**4d. Nutrition intervention coverage measurements**

The Effective Coverage Working Group is engaged with the DHS Program to support the SPA assessment process. DataDENT coordinated a process to consolidate inputs from the nutrition community to revise the SPA questionnaire under the USAID-DHS mechanism for SPA stakeholder engagement. The revised SPA questionnaire was released in May 2022. The DHS Program is producing a brief about the updated
nutrition indicators in the SPA and how they are presented. BFHI indicators and some other nutrition indicators were included in the revision and a tabulation plan is being developed.

Quality of care is a high priority under the universal health coverage agenda and there have been various efforts to develop quality standards for facility-based services for reproductive, maternal, newborn and child health. However, many nutrition services do not have clear quality standards and indicators that can be reflected in the SPA questionnaire and there is no large body of literature on standards of quality for the interventions being delivered, except for the Baby-friendly Hospital Initiative (BFHI). In addition, nutrition services are often lumped together with health services and tend to be afforded lower priority in assessment.

TEAM has had a Quality-adjusted Coverage Working Group and separate working groups addressing coverage in relation to iron and folic acid supplementation and breastfeeding counselling. Moving forward, TEAM should take a more holistic view of intervention coverage measurement by consolidating these efforts under one working group on quality-adjusted coverage to ensure that all major interventions are included.

There are several ongoing initiatives related to coverage measurement under DataDENT and other groups. Some of these include: measuring intervention coverage in surveys; analyses on the coverage of interventions at household level; standard indicators for nutrition-sensitive social protection; and indicators for multiple micronutrient supplements for pregnant women. The Bill & Melinda Gates Foundation is also supporting modelled approaches for micronutrient vulnerability and coverage of large-scale food fortification.

TEAM has previously considered the topic of core nutrition indicators and frequency for multisectoral nutrition monitoring. Coverage is one component of this, along with nutritional status, diet quality, the enabling environment, etc. It would be useful for TEAM to revisit this issue and define core coverage indicators for the first 1,000 days or for other periods to help countries track progress in delivering nutrition programmes. Advisers were asked to consider whether core coverage could be addressed within the NNIS Technical Notes, or if the work would be better addressed by a specific TEAM Working Group on this issue. Advisers were also asked whether they knew of other groups investing in work related to the quality of nutrition services.

Points of discussion

Regarding the issue of quality measurement, the Improving Public Health Management for Action (IMPACT) team, led by Maria Elena Jeffers at the Centers for Disease Control and Prevention (CDC), has some experience in this area and could help shed light on these discussions. In addition, the Micronutrient Data Innovation Alliance being implemented through the Micronutrient Forum is involved in modelling and method alignment; however, it does not have a country engagement component and cannot fill all the gaps that need to be addressed.

WHO has been working with Maria Elena at CDC on the eCatalogue of Indicators for Micronutrient Programmes. The eCatalogue and the DataDENT Compendium of Nutrition Intervention Coverage Indicators (endorsed by TEAM) would be useful resources for examining the validity and use of existing indicators and for expanding on indicators (such as large-scale fortification). In addition, in South Asia, through DataDENT, a landscape analysis of policy and programme actions was undertaken to examine what data were available for countries to track progress on nutrition actions.

TEAM should consider producing guidance on tracking the coverage of multiple nutrition interventions in a multisectoral space. There are large data gaps in this area and even countries implementing multiple nutrition interventions do not have data systems that can track them. They also need guidance on how
to undertake coverage surveys, on analysis, and on how to capture interventions for which no data exist. TEAM could consider convening a broader consultation on nutrition intervention coverage.

As an unbiased group with authoritative backing from UNICEF and WHO, TEAM has a role to play in convening these discussions and guiding countries on how to develop a monitoring plan. TEAM’s input can help identify the nutrition actions that should or could be assessed at country level, and determine how the delivery, coverage and (to the extent possible) quality can be assessed. This is distinct from the guidance that has been developed for NNIS, but it contributes to it.

Some advisers noted that quality is an overarching and essential aspect of monitoring. Quality indicators interrogate the ‘why’ behind a situation and can address gender issues, the quality of counselling, food availability, among other factors. Quality coverage is needed to lead to the ultimate goal of effective coverage and requires the same level of complexity and consideration as TEAM’s work on measuring healthy diets. There was a suggestion for TEAM to draft a paper discussing quality measurement for various interventions, such as supplementation, counselling, food fortification, etc. Another adviser felt that work in defining quality may fall outside of TEAM’s measurement agenda and would require engaging experts in each of the different intervention areas to determine the quality standard for each.

Core indicators and a measurement agenda could be a part of a separate TEAM working group. This relates to the discussions about the criteria for when a workstream should be retired.

Session 5. Governance and operational modalities for TEAM in the future

The session was guided by strategy 5 of the TEAM strategic planning document on ‘developing an operating model to support TEAM’s growing activities’ (for more information, see the report of the twelfth TEAM meeting). The Secretariat proposed some criteria based on previous sessions and advisers were invited to discuss and respond.

TEAM operating model and ‘ground rules’

On the duration of TEAM membership, advisers would maintain a term of two years, subject to periodic review by the Secretariat. Advisers would inform the Secretariat of any change in institutional affiliation during that time for declaration of interest purposes.

On the membership of TEAM working groups, there are no explicit criteria for participation. Membership is voluntary and dependent on the preferences and expertise of the adviser. An adviser is expected to join a minimum of two working groups and the Secretariat may nominate or encourage an adviser to join a particular working group based on need or a good technical match. External members may be invited to join a TEAM working group with the approval of the Secretariat.

There are no explicit criteria for working group leadership and participation is voluntary depending on preference and expertise. An adviser is expected to lead or co-lead a minimum of one working group. The Secretariat may nominate or encourage an adviser to adopt the leadership or co-leadership. External members cannot be a working group lead or co-lead.

Co-chairs are selected by the TEAM Secretariat. The practice of having TEAM advisers elect the Chair or Co-chairs can remain in effect. The term of a Chair or Co-chair is two years, subject to review by the Secretariat.

Regarding time commitment per year, advisers are estimated to invest 10 days, working group leads are estimated to invest 15 days and Co-chairs are estimated to invest 20 days.

There should be up to 15 advisers who shall serve in their personal capacities. TEAM currently has 10 advisers, but more may be needed as TEAM expands its scope of work.
Points of discussion

It was noted that the time commitment of advisers was closer to 15 days a year (i.e., about one day a month, with additional days for TEAM meetings). When the work required extends beyond this commitment, it was suggested that external support be sought to complete the tasks (rather than compensating the adviser for additional time). Term completions should be staggered for the current group of advisers to ensure continuity.

There was some concern expressed about how to manage the potential influence of external institutions on TEAM given that many TEAM activities draw on externally funded projects and given that advisers participation is pro bono. TEAM should consider potential conflicts of interest and how to avoid them, including through the establishment of a pool of funds that could be used to offer an honorarium to an adviser whose participation is not supported by an institution. In the past, TEAM has viewed the ability to draw on institutional resources as a strength. While the risk of bias is small, it is important for TEAM to consider.

There was some discussion about how to recruit more young people to join as TEAM advisers and how to recruit advisers from diverse backgrounds (with respect to age, region and experience) and from low- and middle-income countries. To do this, TEAM may need to consider some form of compensation. For example, there are a number of self-employed experts who would make excellent advisers, but they could not contribute their time on a voluntary basis without some form of support. There was broad support for the idea of increasing the number of advisers from 10 to 15.

There was some discussion about the process for modifying the terms of reference (TOR) for TEAM advisers, and whether an amendment would be useful for aligning the terms more closely with the new strategic plan, including term limits and other updates. The Secretariat noted that it is a complex and lengthy process to modify the TEAM TOR and this would therefore not be practical. However, this does not preclude TEAM from having normative operating guidelines that differ slightly from the TOR.

There was a suggestion to consider having the next TEAM meeting in person, with a broader membership.

Working group operations

Once a working group is established, members should meet with the Secretariat to define modes of operation and support needed. The working group should establish tasks and timeline, consultant and budget needs, external member invitations, working group coordination logistics and roles.

The role of the working group lead or co-lead is to advise and lead the content development and set the working group’s direction, in coordination with the Secretariat. The detailed work will be done with the support of other individuals and fundraising can be undertaken by the Secretariat as needed.

The role of working group members is to participate in discussions and fulfil assigned tasks and roles. The Secretariat’s role is to set the strategic direction of the working group (together with working group leads), and to support working groups and monitor their work plans.

Points of discussion

Advisers were asked to consider the following questions: (1) how can working groups be more productive and more accountable for outputs/deliverables? Do they need a different structure, mandate or type of support? (2) What support from the Secretariat would members need to complete tasks more efficiently? (3) What is the best way to ensure collective TEAM decisions are made fairly and efficiently (e.g., prioritization of issues/agendas, development of workplans, budgets and member sign-offs)?
Advisers noted that it was helpful when products were available to be reviewed before the meeting, which allowed for rich discussions.

TEAM working groups should be task-oriented and assembled ad hoc based on need, rather than permanent. The duration of the working group should be linked to the achievement of the specific task.

While the scope of TEAM’s work is expanding, the number of advisers and days allocated to support TEAM activities remains the same. This means it will be important to prioritize a smaller set of working groups and to draw on external financial and human resource support moving forward. Consultants play a critical role in carrying out working group deliverables and ensuring that TEAM outputs are not reliant solely on the working group members’ volunteer time.

It may be useful to have some form of coordination across working groups to help prioritize actions. This role could be fulfilled by the Secretariat, Co-chairs or a more active management coordination support. More active engagement from the Secretariat in developing the workplans for each working group and its respective budget will help move work forward.

TEAM budget

The 2022 TEAM budget was presented and discussed. This budget only includes resources to fund TEAM activities and does not include administrative and management costs for the UNICEF and WHO Secretariat. The budget has a dedicated timeframe (e.g., the deadline for the 2022 budget is March 2023).

Working groups should understand the budget as the minimum funds earmarked by WHO for TEAM activities. UNICEF contributes in-kind to TEAM activities by leveraging its other grants to hire consultants that support TEAM activities.

Working groups are encouraged to approach the Secretariat with their specific funding requests. There was also a suggestion to develop a broad TEAM workplan covering the activities of multiple working groups that the Secretariat could use to approach donors to diversify the TEAM funding pool.

Communications

TEAM communication falls under four categories: internal, nutrition monitoring partners, dissemination and external.

In terms of internal communication, TEAM has a monthly meeting of Co-chairs and the Secretariat in addition to two TEAM meetings a year. There is also follow-up communication between the Secretariat and working group leads regarding progress on the TEAM workplan.

In terms of communication with nutrition monitoring partners, TEAM brokers discussion and liaises with other agencies, sectors and countries.

In terms of dissemination, TEAM communicates via its website and through the sharing of TEAM products. The Secretariat began developing a communications strategy and each working group has communicated a budget for its products.

In terms of external communication, TEAM participates in events and releases statements as needed. However, there are additional opportunities that could be leveraged to increase visibility.

Points of discussion

In addition to the Secretariat, TEAM advisers should participate in relationship-building with partners and represent TEAM whenever feasible. To promote external visibility, TEAM should plan to participate in N4G 2024.
To improve internal communications, the Secretariat could consider producing routine updates for TEAM advisers (e.g., every six weeks) about the progress of TEAM working groups. TEAM should also invest more in publishing journal articles, which are TEAM’s most powerful and sustained legacy as knowledge providers.

To promote and guide external communication, it would be useful for advisers to have access to a set of talking points about TEAM activities and priorities. Dissemination of TEAM products is a high priority and soliciting feedback should also be considered part of a good dissemination strategy. TEAM could consider opening its draft products for public comment, which would serve the dual purpose of improving the content and increasing TEAM visibility.

Next meetings – frequency and modality

TEAM meetings are held twice a year. There was support among advisers for one of these meetings to be face-to-face and the other virtual.

Advisers discussed hosting the next TEAM meeting in early November 2022 or mid-January 2023. There was a suggestion to select a location where COVID-19 is not expected to peak during this time. UNICEF has facilities in Budapest and Florence that are used to host meetings.

There was a suggestion for TEAM to consider reserving part of its agenda to discuss current and future directions in nutrition monitoring. Advisers also appreciated the opportunity to prepare for discussions in advance with background documents and to delve more deeply into certain topics; this could be considered when structuring the next meeting.

Closing remarks

Co-chair Edward Frongillo thanked members for their time and noted the renewed energy within TEAM to move forward with its strategic plan and next steps. On behalf of the TEAM Secretariat, Chika Hayashi from UNICEF and Kuntal Saha from WHO expressed thanks to the advisers for their time, energy and support to the TEAM.
## AGENDA

### Day 1: Monday, 6 June 2022

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| 8:00–8:15 | 14:00–14:15 | Welcome and introductions  
Opening remarks by TEAM Co-chairs | Chika Hayashi/Kuntal Saha  
Jennifer Coates/Edward Frongillo |
| 8:15–9:00 | 14:15–15:00 | Identification of high priority topics and delivery of practical and timely solutions and products to address them | Jennifer Coates/Edward Frongillo |
| 9:00–9:45 | 15:00–15:45 | Expansion of TEAM’s scope of work and capacity – global needs and TEAM’s capacity to address them | Jennifer Coates/Edward Frongillo |
| 9:45–10:00 | 15:45–16:00 | Break                                                            |                                                                      |
| 10:00–11:40 | 16:00–17:40 | Sessions on specific examples of topics that TEAM should take on in the future and why (25 min each)  
- Adolescent anthropometry  
- Simple biomarkers of vitamin A and iodine for pregnant and lactating women are not associated with metabolic functions  
- How to measure nutrition counselling  
- Extension of global nutrition targets to 2030 and Global Action Plan on the Prevention and Management of Anaemia | Edward Frongillo/Elaine Borghi  
Omar Dary  
Sara Wuehler  
Lisa Rogers |
| 11:40–12:00 | 17:40–18:00 | Wrap up day 1                                                   |                                                                      |

### Day 2: Tuesday, 7 June 2022

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| 8:00–10:00 | 14:00–16:00 | Updates from working groups – describing processes and learnings (20–30 minutes per working group)  
- Diet quality metrics  
- Nutrition information system  
- Haemoglobin/anaemia  
- Nutrition intervention coverage | Jennifer Coates/Edward Frongillo  
Rebecca Heidkamp/Chika Hayashi  
Sara Wuehler/Maria Nieves Garcia Casal  
Rebecca Heidkamp/Purnima Menon |
| 10:00–10:15 | 16:00–16:15 | Break                                                            |                                                                      |
| 10:15–11:15 | 16:15–17:15 | Governance and operational modalities for TEAM in the future (20 min presentation + 40 min discussion) | Presenter: Secretariat  
Facilitator: Co-chairs |
| 11:15–11:30 | 17:15–17:30 | Closing remarks                                                   | Co-chairs/Secretariat                                                 |

End of meeting
Annex II

LIST OF PARTICIPANTS

TEAM Members
1. Jennifer Coates – Co-chair
2. Edward Frongillo – Co-chair
3. Kaleab Baye – Member
4. Omar Dary – Member
5. Rafael Flores-Ayala – Member
6. Rebecca Heidkamp – Member
7. Purnima Menon – Member
8. Sorrel Namaste – Member
9. Sara Wuehler – Member
10. Wenhua Zhao – Member

Observer
1. Giovanna Laura María Gatica Domínguez (WHO)
2. Lynnette Neufeld (FAO)

Rapporteur
1. Julia D’Aloisio

Consultant
1. David Hales

TEAM Secretariat (UNICEF)
1. Chika Hayashi
2. Julia Krasevec
3. Richard Kumapley
4. Vrinda Mehra
5. Louise Mwirigi

TEAM Secretariat (WHO)
1. Elaine Borghi
2. Elisa Dominguez
3. Monica Flores-Urrutia
4. Lisa Rogers
5. Kuntal Kumar Saha
3 For more information, see <https://www.nichd.nih.gov/research/supported/BOND-KIDS>.
8 Topics include: breastfeeding within one hour of birth; exclusive breastfeeding; healthy eating during pregnancy; weight gain during pregnancy; iron-containing supplements; physical activity; hygiene and sanitation; family planning; intermittent preventive treatment of malaria; or balanced energy and protein supplementation for undernourished or food insecure populations.
12 For more information, see <https://data.unicef.org/resources/nutrition-nnis-guides/>.