Amman, Jordan
February 19 to 20, 2018

HIGH LEVEL TECHINCAL ASSESSMENT MEETING 2018 MEETING REPORT

SMART

ACKNOWLEDGMENTS

The high-level technical assessment Meeting Report would not have been possible without the contributions of Action Against Hunger Regional office in Amman and UNICEF Middle East and Northern Africa, participants from the various organizations that participated in the meeting. In particular, we would like to thank the SMART Technical Advisory Group and other SMART global team staff for their feedback and inputs into this meeting report. Many thanks also to Jana Daher, Hailu Wondim and Victoria Sauveplane for developing the content of the report.

CONTENTS

ACRONYMS AND ABBREVIATIONS

AWG	Assessment Working Group
CDC	United States Centers for Disease Control and Prevention
DHS	Demographic and Health Surveys
ENA	Emergency Nutrition Assessment
FEWS NET	Famine Early Warning Systems Network
GAM	Global acute malnutrition
GM	Geometric Morphometric
GNC	Global Nutrition Cluster
GPS	Global Positioning System
HH	Household
IPC	Integrated Phase Classification
IYCF	Infant and Young Child Feeding
MAM	Moderate Acute Malnutrition
MNP	Micronutrient Powder
MICS	Multiple Indicator Cluster Surveys
MUAC	Mid-upper arm circumference
NGO	Non-Government Organization
NSS	Nutrition Surveillance Survey
ODK	Open Data Kit
OFDA	Office of U.S. Foreign Disaster Assistance
PPS	Probability proportional to size
SAM	Severe acute malnutrition
SENS	Standardized Expanded Nutrition Survey
SMART	Standardized Monitoring and Assessment of Relief and Transitions
TAG	Technical Advisory Group
UNICEF	United Nations Children's Fund
WFP	World Food Program
WHO	World Health Organization
WHZ	Weight for Height Z-score

EXECUTIVE SUMMARY

Nutrition data collected from population-based surveys in the Middle East has been an area of challenge for many years. In numerous countries in the region, data used to determine the anthropometric status of target groups, especially children under 5 years of age for planning and policy decision is either outdated or collected in an ad-hoc manner with no guarantee of quality. Host country governments, donors, and national and international partners have been facing challenges in terms of getting high quality, reliable and timely data to assess child malnutrition and monitor country progress and goals.

In response to these challenges, the SMART Initiative in the Middle East and Action Against Hunger organized a technical meeting in Amman, Jordan in February 2018 to develop a shared understanding of the purposes, relevance, and challenges of nutrition data. The meeting served as a platform for exchange of knowledge, experiences and expertise on innovative approaches to collect, analyse and utilize nutrition data as well as provide recommendations for improving how nutrition issues are viewed and prioritized in the Middle East. The meeting provided an overview of the nutrition situation in the Middle East; presentations on some of the ongoing research and innovations to improve the quality of anthropometric measurements; considerations for moving toward integrating additional indicators in SMART surveys; Utilization of survey data for programmatic and advocacy purposes and consensus on next steps (see Agenda, Annex 1). Participants included Action Against Hunger regional and Headquarter staff (France, Canada, and Spain), United States Centers for Disease Control and Prevention (CDC), representatives of United Nations agencies (UNICEF, the World Health Organization [WHO], and the World Food Program [WFP]), and International and National Non-governmental Organizations (I)NGOs) as well external nutrition experts (see participant list, Annex 2). Hassan Ali Ahmed, Middle East Regional SMART Advisor, facilitated the meeting.

Participants shared an understanding that high-quality anthropometric assessment is required to produce credible, objective, valid, equivalent, and compelling information that can be used by decision makers at various levels. Accurate anthropometric data, while challenging to obtain, is critical for countries and other data users to focus programming appropriately to meet the needs of populations. However, capacity to collect and produce high quality, credible and timely data has to be embedded with capacity to fully understand, interpret and utilize this information to inform policy and programs in the region. Each country in the region, whether facing an emergency or non-emergency context, has strengths and opportunities for improving the way nutrition data is utilized and providing the much-needed evidence to influence nutrition policy in the region.

Participants agreed that there is room for collaboration among the regional and global experts and governments to develop comprehensive survey plans and utilization strategies that involve sharing of information within the nutrition sector and across sectors to better consolidate the countries needs and provide holistic solutions to addressing the different types of malnutrition in the region. There was consensus on the importance of harmonizing survey protocols, tools and methods to ensure optimal understanding of the magnitude of the problem of malnutrition both within the countries but also at regional level.

Participants also agreed on the importance of collecting high-quality anthropometric data, especially the use of both weight and height indicators and MUAC and to use these criteria as complementary rather than alternative methods of assessing malnutrition. There was a felt need to develop guidance on how to use these criteria to calculate caseloads and to ensure that these are assimilated within the ENA for SMART software. It also became apparent that in order to ensure ease of capacity transfer, translation to Arabic[1] of the key documents and curriculum on processes for training, field procedures, data cleaning, and reporting would provide data users (especially governments) with a greater understanding of the results and the context in which the data were collected.

The proposed next steps to achieve the shared objective of highlighting the problem of malnutrition in its different types as seen in the region included the following:

1. Adaption of the new SMART manual (SMART Manual version 2) to include guidance on remote training and translation of SMART package into Arabic language
2. Adaptation of the ENA software to consider automatic calculation of combined prevalence of malnutrition, (WH+MUAC), cross-tables WH/HA, HA/MUAC and WH/MUAC prevalence.
3. Sharing the outcome of the ongoing research and the evaluation of the novel mobile applications (SAM photo, Child Growth Monitoring, and the app for standardization tests) for an improved diagnosis of malnutrition and a better understanding of the different vulnerability profiles.
4. Sharing the conclusions on the CDC-led systematic review on Household Level Correlation of Food Security and Nutrition Indicators.
5. Strengthening the commitment and advocacy to ensure public access to raw data and develop a database (registry/repository) with survey data and protocols.
6. Development of a framework for including additional indicators in SMART surveys

[1] Arabic is the predominantly spoken language in the region.

INTRODUCTION

As SMART Global Project Convenor for the Global Nutrition Cluster, the SMART Team at Action Against Hunger supports key nutrition stakeholders by enhancing response capacity in emergencies, development settings and displaced populations, and in high-risk contexts with an absence of reliable data. SMART also provides support by ensuring coordination and dissemination of nutrition information and advancing technical capacity to collect good quality, reliable and timely data using the SMART methodology globally. Since July 2017, the SMART Initiative has established its presence in the Middle East Region in order to provide on the ground support to the nutrition sector stakeholders about nutrition information systems and nutrition surveys and assessments.

The High Level Regional Technical Assessment meetings, also known as 'focal point meetings', serve as essential platforms for nutrition stakeholders to convene and share new research and innovations, field experiences, lessons learnt, and good practices in order to address identified challenges related to nutrition assessments and information management. Action Against Hunger in collaboration with its regional partners organized the first High-level Technical Assessment Meeting in the Middle East. The discussions during this meeting will lead to improvements in nutrition assessments and information management and guide the application of the SMART methodology in the Middle Eastern region for a more tailored approach.

MEETING OVERVIEW

The **First High level Technical Assessment Meeting** was held in **Amman, Jordan** from **February 19th to February 20th, 2018**. The overall goal of the meeting was to provide a platform for stakeholders to discuss and deliberate on technical and policy issues focused on nutrition assessments and information management of the crisis-affected populations in the Middle Eastern region.

The specific objectives of the meeting were:

1. To provide an update on Middle East SMART Strategy 2018-2020
2. To provide an update on research and innovation to Nutrition assessments and information management
3. To understand the application of SMART beyond Anthropometry and Mortality data
4. To discuss the utilization of Nutrition information and survey data in the Middle East for advocacy and funding purposes
5. To share experiences on mobile data collection in conflict areas.

In order to achieve these objectives, Action Against Hunger brought together regional and global experts to develop strategies and discuss the following thematic areas. (The full agenda can be found in Annex 1).

- Introduction of information management and data in the Middle East
- SMART Strategic Framework 2018-2020
- Importance of including both WHZ and MUAC for Under nutrition prevalence (Global Experiences)
- Using WHZ and MUAC for caseload calculation. Case study in Yemen.
- Research and innovation to anthropometric measurements
- Remote training of SMART methodology
- Application of SMART beyond Anthropometry and Mortality data
- Mobile data collection: experiences from the field
- Utilization of Nutrition information and survey data in the Middle East: programmatic, advocacy and funding purposes
- Needs assessment on the Middle East - consultation

The meeting attracted 50 participants (see Annex 2), inclusive of six members of the SMART Project Team and the Technical Advisory Group (TAG).

Reflecting on the above-mentioned thematic areas, the High level technical assessment meeting was successful in drawing attention to nutrition information and data throughout the event. Specifically, the SMART initiative in the Middle East was recognized both amongst regional and country specific stakeholders that attended the meeting.

SUMMARY OF SESSION PRESENTATIONS

INTRODUCTION OF INFORMATION MANAGEMENT AND DATA IN THE MIDDLE EAST

The meeting focused primarily on nutrition anthropometric data in the Middle East obtained from SMART. The UNICEF regional nutrition expert provided an update on the state of malnutrition and data in the region. From the presentation, it was noted that the region is experiencing a different type of malnutrition. With the exception of Yemen where there is a visible burden of acute malnutrition, other countries in the region are mostly faced with low levels of Global acute malnutrition but high levels of chronic malnutrition, micronutrient deficiencies, and poor infant and young child feeding practices. Since the traditional understanding of malnutrition is mainly focused on acute malnutrition, there have been reluctance by governments in the region to acknowledge the fact that a problem of malnutrition still exists. Participants mentioned that generating up to date data on malnutrition could significantly contribute to increased awareness and acceptance of governments to address the types of malnutrition found in the region.

SMART STRATEGIC FRAMEWORK 2018 -2020

The SMART team presented the 3-year strategy developed through a consultative process with key stakeholders both at regional and global level. Meeting participants were oriented on the three key strategic pillars from the strategy. The application of SMART strategic pillars to scenarios in the region and applicability to different crisis scenarios and the crosscutting themes of capacity transfer, technology and knowledge generation. These strategic pillars and crosscutting themes are considered a key guidance for the region and are expected to provide a basis for structuring how SMART initiative will be interacting and engaging with stakeholders to contribute to efficient and quality collaborative information systems for rational and timely decision-making.

DETECTION AND UTILIZATION OF WHZ AND MUAC FOR UNDER NUTRITION PREVALENCE

This session consisted of a number of presentations.

A. Importance of including both WHZ and MUAC for under nutrition prevalence (Global Experiences)

The first presentation focused on global guidance and research on the importance of including both Weight and Height indicators and MUAC for under-nutrition prevalence. The meeting participants were informed of the existing study conducted by Michael Golden and Emanuel Grellety[2] and their findings that the two indicators are capturing different children in the population. This study provided a basis to the participants to have a clear guidance based on current evidence on the direction and magnitude of diagnostic discrepancies. The presenter also shared another study by Dr. Ibironke Olofin[3] that looked at

[2] Weight-for-height and mid-upper-arm circumference should be used independently to diagnose acute malnutrition: policy implications

[3] Associations of suboptimal MUAC and WHZ combinations with child mortality: a pooled analysis

clinical significance of diagnostic discrepancies. The presentation concluded that available evidence does not support any change to the current practice of collecting and using both indicators in the assessment of GAM prevalence. It is therefore important that countries continue using both indicators in assessing malnutrition in order to ensure that they do not miss any children in the population.

B. Concordance between the estimates of wasting measured by weight-for-height and by MUAC for classification of severity of nutrition crisis

CDC representative shared a recent analysis conducted on concordance between estimates of wasting measured by WHZ and MUAC using data from SMART surveys. The aim of this analysis was to assess the concordance between MUAC and WHZ based prevalence of wasting in the same population, to assess the regional variability of this relationship, explore possibility to derive MUAC thresholds corresponding to existing WHZ thresholds and to explore possibility to use MUAC based data for Integrated Phase Classification in the absence of WHZ data. From the analysis it was observed that MUAC and WHZ based prevalence in the same population have systematic differences; there was poor concordance between the two indicators and the prevalence calculated using WHZ is usually found to be higher than the prevalence using MUAC; additionally, the bigger the discrepancies between the two indicators as prevalence of WHZ increases. As a result of the poor concordance, it is not possible to derive good MUAC based thresholds with the same interpretation as existing WHZ thresholds. For purposes of IPC, it is not possible to distinguish between Phase 2 and Phase 3 using MUAC. Therefore, using MUAC thresholds in IPC would result in poor convergence of phase classification.

C. Using WHZ and MUAC for caseload calculation. Case study in Yemen.

The final presentation on this topic was looking at field experience on the use of WHZ and MUAC in caseload calculation. The Yemen nutrition cluster and partners have been using a combined prevalence (Total GAM) for purposes of calculating caseloads. From their experience, the use of combined prevalence has resulted in an 18% increase in caseloads compared to the caseloads calculated using WHZ only. As a result of using the combined prevalence, the sector has been able to better plan for adequate resources (increase supplies) to ensure that stakeholders are better prepared to treat all cases of malnutrition in the country. It was mentioned that thus far the calculation of combined prevalence is done using basic excel spreadsheets and it was recommended that ENA for SMART software should consider integrating this analysis to ensure accuracy and precision of such calculations in future.

RESEARCH AND INNOVATION TO ANTHROPOMETRIC MEASUREMENTS

This session consisted of several novel on-going research projects that are expected to have impact on anthropometric measurement in future.

The first session was a presentation on a research study conducted by Trenton Dailey-Chwalibóg from Action Against Hunger France in collaboration with Duke University as part of his PhD thesis. The study is titled “Improvements in the diagnosis of child undernutrition through the assessment of emerging biomarkers of deprived metabolic status and vulnerability” (OptiDiag). The OptiDiag project is designed to determine how to best diagnose (and subsequently treat) children suffering from severe acute malnutrition (SAM). The presenter shared with participants that based on the study by Michael Golden and Emmanuel Grellety, Weight-for-Height Z-score (WHZ) and Mid-Upper Arm Circumference (MUAC) have been acknowledged as independent criteria for the diagnosis of malnutrition. However, in the absence of a gold standard, it is difficult to understand the diagnostic performance and limits of these

anthropometric tools. MUAC and WHZ correlate very poorly with one another; it was reported that the implication of having a MUAC only program is an exclusion of 47% of children from treatment. This presented an ethical problem. It would therefore be interesting to investigate whether these excluded 47% have different characteristics and need different treatment regimen. This inconsistency triggers the urgent need for relevant and practical diagnostic tools to improve the accuracy of malnutrition diagnosis in humanitarian settings.

The Optimized diagnosis uses three biomarkers: micronutrient deficiencies, energy metabolism and body composition + non-specific immune responses (blood, urine, hair). Three methods are used:

- BIA (bioelectrical impedance – lean vs fat mass – It involves running a current through the body; but there is no algorithm yet for malnourished children);
- SIA (nitrogen-like protein and carbon isotopes linked to fat and carbohydrates – It involves measuring the isotopic ratio from collected hair samples; the samples are currently exported since the needed machines are not adapted for the field);
- Leptin POCT (leptin is a hormone that inhibits hunger which is also an indicator of fat reserves). Studies have shown that children who die from malnutrition have a very low leptin level compared to those who survive it. The level of leptin is assessed by taking a picture of the blood sample using a Smartphone and looking at the luminosity of the blood.

The study is currently being conducted in three countries[4] with a target of 150 children in each country. The implementation phase of this study is almost complete and the presenter will be working on analysis of the samples in the next phase of the study. The researcher also pointed out that OptiDiag was nested into the cross-sectional SMART surveys in order to collect the indicators from a representative sample. In addition, quality checks have been put in place (daily data verifications and flag observations) in order to re-measure children with problematic data.

The second session was a presentation on a novel innovation of anthropometric measurement study using photo diagnostic. The study titled SAM Photo diagnostics is conducted by Action Against Hunger Spain and aims at developing an application that uses geometric morphometric (GM) techniques to identify severely acute malnutrition (SAM) cases. The technology relies on 2D images taken in different positions with digitization of X and Y coordinates in order to identify lean body mass and differentiate it from bone mass. Since age affects the shape of the children, the population is subdivided into two age groups (under 2 years and over 2 years) in order to increase the accuracy of measurements. The aim of the study is to visualise and quantify malnutrition. The Action Against Hunger research department in Spain developed the technology and tested it in Spanish sample and Senegal (150 children in each country). The study is planning to deploy the technology in three Action Against Hunger missions to further refine the technology. Steps are being taken to include the identification of moderate acute malnutrition in the application. A participant commented that there are other photo diagnosis studies used to estimate height. The researcher responded that this innovation uses body composition to diagnose malnutrition.

[4] Burkina Faso, Bangladesh and Liberia

The third session was a presentation on Child Growth Monitoring using infrared. Welthungerhilfe is developing an application to detect malnutrition using 3D imaging/scanning. The technology consists of a 3D augmented reality scan with infrared light 38,000 points per second to build a cloud and get an accurate picture (height is the most difficult to measure in the field but with this app all body measurements can be easily collected all at once). Google Project Tango is used to get the infrared and the app runs without the need for internet connection. The plan is to pre-test it and then field test it in 10,000 children in India to improve machine learning. A participant posed a question on how the researchers manage ethical consideration when taking the picture of the children. The researchers responded that the data is secure and protected and that they use consent forms and ensure that they have acquired permission and signatures from the caregivers of the children. They also mentioned that they are not storing the images and that an identification (ID) code is shared with users and it can be used to delete their data. Another participant from CDC pointed out that there are many imaging studies being done some using 3D scanning technology without infrared (e.g. a student at Emory University has published his research and has used rigorous methods using similar technology). The researchers responded that they have not heard of the study from Emory but would be happy to be linked with that study group. CDC offered to facilitate the linkage between the two research studies and to share with the Welthungerhilfe researchers the published research in an effort to reduce duplication of efforts.

EXPERIENCE ON DATA COLLECTION IN CONFLICT AREAS WITHIN SYRIA

This session focused on a presentation on experiences of using technology to collect data in conflict areas. A case study of Syria was considered a good example from the region given the current security context and on-going conflict. In most parts of Syria, data collection is challenging and the use of technology openly might be dangerous for the data collection team. The presenter Khaled Al-Milaji shared his experience on using mobile data collection tools to conduct needs and population monitoring assessments, estimation of populations and multi-sectorial assessments at community level. The presenter shared their experiences in training of data collectors and mentioned that there are several techniques applied in training in conflict areas. In cases where movement is highly restricted and group trainings are not feasible the data collectors are trained individually. Sharing of data is also done through non-conventional methods like sending pictures of questionnaires through the WhatsApp application for ease of information sharing. A participant posed a question to the presenter on whether they use an application or they scan the questionnaires. The presenter responded that they use an offline application that is unrecognizable and data is synchronized once the internet connection is available.

REMOTE TRAINING OF SMART METHODOLOGY: EXPERIENCE FROM SYRIA CROSS-BORDER

This session involved sharing of experiences from Syria on remote training. The session focused specifically on the innovative techniques that colleagues from the nutrition cluster in Gaziantep Syria are using to deliver SMART methodology training to nutrition partners working in hard to reach and besieged areas of Syria. The presenter (Mona Maman- Nutrition co-lead Gaziantep cluster) shared the experiences using this innovative approach. In the process of planning the nutrition surveys, the assessment-working group (AWG) based in Gaziantep, Turkey has devised two key types of remote training. In scenario one, the AWG chooses facilitators located inside the targeted areas and activates a WhatsApp group between the team in Syria and the AWG in Gaziantep. The number of training days are also increased (usually 10 days) and the training covers one module per day to ensure clear

understanding of the concepts by the teams. The AWG then checks the equipment to be used via Skype and finally proceed to conducting a standardization test with participation of AWG members via skype. In scenario two, the training days are usually seven with a more focused delivery of key modules from the SMART training package. The presenter also shared that conducting remote training of SMART methodology although possible requires diligent and detailed planning prior, during and after the training to ensure that teams are ready to be deployed to the field.

SMART RESOURCES AND GENDER ANALYSIS

The SMART team made a presentation on available resources that can be useful to stakeholders who are involved in data collection. The presenter (Jana Daher – SMART Project Officer) shared that the SMART team has finalized the new SMART manual and that it is now readily available on the website together with other key materials like E-learning courses and instructional videos.
The presenter also shared with the meeting participants a gender analysis study that was conducted from a data repository of trained individuals. The analysis was based on the data from 2013–2017 with four different levels of training being considered (Master trainers training, Survey Managers training, Supervisors training and Enumerators training). Imbalances and associations were explored.

Findings of the analysis:

- Inconsistency in female representation across the years and the regions.
- Under-representation of females for survey manager trainings;
- Under-representation of females for the Asia and Middle East region.

Recommendation of the analysis:

- Prior to trainings: to devise dissemination channels that would allow for a fair representation of all genders;
- During trainings: to discuss the ideal gender composition for field teams;
- Following trainings: to address the challenges related to the selection of a specific gender composition.

MOBILE DATA COLLECTION: UPDATE FROM THE FIELD

This session looked at experiences of using mobile technology in SMART surveys at a field setting and the different collaborations that are currently ongoing to incorporate components of quality assurance mechanisms in the field during data collection using mobile technology. The presenter (Eva Leidman – Center for Disease Control) shared that the exercise involved use of tablets for standardization tests, for repeated measurements and for additional quality checks. Using tablets for standardization tests allows for better analysis since it eliminates data entry errors and ensures that the teams cannot change or copy measurements between the two rounds of measurements. The presenter mentioned that incompatible data formats as one of the main challenges for using tablets. Solutions to address this problem is currently being explored through a collaboration between SMART and SENS teams. The CDC has been working with CartONG to allow for the adaptation of the standardization tests on tablets. The current beta version of the mobile app includes some quality checks such as the use of GPS maps to confirm that the teams have visited the enumeration areas as well as the review of the time taken to complete questionnaires.

Additional quality checks:

- Meta-data behind the scenes (which is automatically captured by the tablet).
- Timestamp (start and end times -Interviews should take longer with more children).
- GPS coordinates (use of Open street map and Google maps to look at where data collection was taking place and if teams were diligent enough to visit all sampled households).
- Verification of remotely managed fieldwork (duration of interviews, fieldwork, proper sampling of selected clusters).

The mobile app also includes the ability to do repeated measurements that are either triggered by flagged data or a random selection. The app uses ODK questionnaires with a built-in review of z-scores compared to reference cut-offs (the ability to assess whether the child is severely malnourished based on WHZ), based on which outlier data is flagged. It is worth noting that there won't be a need for the WHO field tables anymore given that the measurements are already compared to the WHO reference. The feature that assesses whether a child is an outlier based on WHO criteria has been field tested in numerous countries (most recently used in Bangladesh). As above-mentioned, the tablets also prompt a random selection of children to be re-measured. When selected (because of flagged data or random selection), the child will be re-measurement for all parameters. The random re-measurement is currently set at 5% (re-measuring 20 children per day per se would not be a burden to the teams). There is a rule that is included in the algorithm where a child is re-measured a maximum of two times - if needed - and no child is measured three times. In addition, the teams are not aware whether the re-measurement is due to measurement error or random checks.
It has been found that re-measurement improved quality of data as it kept the teams on their toes and ensured the rigour of the fieldwork. In addition, approximately 30% of the flagged measurements were salvaged after re-measurements. In terms of the direction of re-measurement, the assumption is that errors are random.
To give an example of a pilot done in Nigeria: there have been multiple rounds of measurements done. In fact, 22,000 children were measured over four rounds of surveys and only 100 flags (0.4%) were identified, which is indicative of good data quality given the very large sample size.
The presenter mentioned that it is important to be careful and not directly assume that the re-measurements will always lead to better quality data. Additionally, the automatic analysis of data is not yet integrated so there is still need for human resources to make use of the random re-measurements.

Application of SMART beyond Anthropometry and Mortality

This session involved a number of key presentation that explored both field level experiences on inclusion of additional indicators, global guidance on key considerations when planning to include additional indicators in SMART surveys and recent research on correlation of additional indicators to nutrition.

The first presentation focused on field experiences from Yemen on inclusion of additional indicators through conducting integrated SMART surveys. The presenter (Nagib Abdulbaqi – UNICEF Yemen) shared some of the key triggers to integrated assessments in Yemen, challenges and lessons learnt in inclusion of additional indicators in SMART surveys. There was a question from a participant regarding the progress of a contextualized SMART national guideline that was developed for Yemen. The presenter responded that the guideline is still being reviewed and it will be finalized in a few months. A participant mentioned that it is important to consider quality of data (both nutrition and additional indicators) and to establish clear mechanisms to ensure that this is guaranteed. A participant

commented that SMART surveys do not take the same approach as MICS and DHS in terms of inclusion of additional indicators. A SMART Survey is more rigorous. In humanitarian settings, we need the data much quicker, with limited time in the field and limited resources to do these surveys. If SMART surveys are being conducted periodically (every 6 months or annually), there is no need to measure all the indicators. SMART is not the best tool to measure all indicators – IYCF is usually measured in a narrow age range and if you include the introduction to complementary food then the sample size from SMART will not be sufficient. In addition, IYCF indicators are not changing as often as the nutritional status. If national IYCF surveys were conducted, focus only on optimal IYCF indicators in SMART surveys.

The second presentation focused on providing guidance on key considerations to take into account when planning to include additional indicators. The presenter (Hailu Wondim – Emergency Needs Assessment manager – SMART) shared a brief history of SMART methodology. The core indicators for SMART surveys are nutrition and mortality. It was discussed that some of the key considerations that partners need to consider are.

- Relevance of including additional indicators – The partners have to consider the type of data is collected, who is collecting the data, and for what purpose the data is collected. It was mentioned that some indicators require specialised skills in collection and analysis.
- Time required to collect data in the field and sample size calculation is a key factor to consider when planning to include additional indicators.
- Utilization of data collected is important to consider when planning to include additional indicators. It is important to have a clear plan on how the data will be used once it is collected.

A participant commented that it is important for SMART to be more flexible and allow additional indicators, as resources are limited and competing in the field setting. The presenter responded that SMART's position with regards to inclusion of additional indicators is flexible and that SMART advices partners to keep additional indicators to a minimum and always keep in mind the key considerations.

The third presentation looked at recent evidence from research on correlation of additional indicators and nutrition. The presenter (Eva Leidman- Centre for Disease Control) shared that they have recently conducted a systematic review on published articles from developing countries between 2000-2017, on under-five children, and including at least one indicator (food security and/or anthropometry).

The objective of the study was to review and summarize existing literature on the association between food security and malnutrition in order to inform ongoing discussions.

Key findings:

- 39 articles from more than 20 countries
- Relationship between food security and nutrition indicators is inconclusive (greater significance for stunting than wasting)
- Findings were inconsistent within and across nutritional and food security indicators
- Suggests caution in presenting only bivariate analysis of emergency surveys. Need to present adjusted analyses because unadjusted analyses give a false sense of significance (a majority of findings in studies were no longer significant once adjusted).
- Most research reviewed based on Household Food Insecurity Access Scale

- Limited research on scales more commonly used in emergency settings (e.g., household hunger scale)

A participant shared a comment that it might be relevant to consider clinical significance in the review since currently the study is based on statistical significance. The presenter mentioned that food security is based on self-reporting indicators while nutrition indicators are objective. Timely introduction to nutritious food is the most important factor to ensure proper growth and not what foods are usually available at home.

UTILIZATION OF NUTRITION INFORMATION AND SURVEY DATA IN THE MIDDLE EAST: PROGRAMMATIC, ADVOCACY AND FUNDING PURPOSES

This session involved a number of key presentation that looked at utilization of nutrition data from a programmatic and advocacy lens. The aim of this session was to provide participants with country and global insight on how nutrition data is utilized. The areas of focus was utilization by nutrition stakeholders and other sectors, identify gaps and areas of improvement for use of data in the region and finally provide recommendations on how nutrition data can be used for advocacy purposes to highlight the problem of malnutrition to governments and donors in the region.

A. Nutrition Surveillance system - Syria

The first session was a presentation from Syria on nutrition surveillance system. The presenter (Dr. Mais Wafai – Focal point NSS –Gaziantep Hub) presented experience of setting up a nutrition surveillance system in Syria. The Nutrition Surveillance System (NSS) was established in June 2017 as a part of an early warning network. It helps in monitoring trends and identifying key areas for immediate response. The objective of the surveillance system was to assess acute malnutrition in children under 5 years and pregnant and lactating women, reduce under-five mortality and follow up malnourished cases. The surveillance system started with a pilot in 14 Health facilities in seven governorates. The pilot phase involved close collaboration with CDC to provide guidance on setting up the system and ensure quality mechanisms are in place to produce good quality and reliable data. In the Pilot phase the system assessed malnutrition using only MUAC + edema. This was a deliberate effort since the objective was to establish a system and focus on capacity building of key staff to be able to collect good quality data. A review of the pilot phase led to key lessons that were adopted. These were like modification of the surveillance forms, improved time management during data collection, defining different of case follow up, establishment of archive systems and better collaboration with partners inside Syria. In January 2018, the system embarked on the 2nd phase of the project that included addition of Weight for Height measurements, and expansion to 97 health facilities in 8 governorates, 18 districts and 43 districts. In order to ensure quality of WHZ measurement additional resources (Human resources) was added to each facility selected for surveillance. So far, 30 Health facilities are measuring children using WHZ and the aim is to expand to 46 health facilities. Due to the access challenges in Syria, training was divided into 2 main categories. The first category involved training of district officers (70% of staff were trained remotely and 30% were trained in Gaziantep) and training of field officers who were trained by the district officers. Online training involved the use of technology and modules were tailored to ensure optimal understanding of the key concepts to ensure quality data collection. The surveillance system produces monthly bulletins that indicate the trends in malnutrition in the facilities covered. The presenter mentioned some of the strengths of the surveillance system was high scale system for nutritional status information, accuracy, quality indicators (completeness and

timeliness), working in non-accessible areas, professional field teams. Some of the weaknesses from the surveillance system is that it is only at facility level (facility based hence not representative), high turnover of staff and sustainability for the project in the long term.

B. Utilization of Nutrition Information and Survey Data in the Middle East (WOS)

In this presentation the presenter (Lindsay Baker – Whole of Syria Nutrition Cluster Co-lead) shared the Whole of Syria nutrition cluster strategy and process of utilizing nutrition data. The objective of using nutrition information and survey data is to prioritize the need across Syria in a harmonized manner and to influence the multisector response. It was mentioned that there are several challenges in utilization of nutrition data:

- The timeliness of the data flow
- The frequency of the updates
- The standardization of the methods (SMART vis-a-vis MUAC screening).
- Consensus building among hubs (source).
- Reliability of the data (OM).

The presenter mentioned that the WoS nutrition cluster uses 17 severity-ranking indicators: ten are nutrition specific, three are nutrition sensitive, three are crosscutting and one is coverage-related indicator. The CDC mentioned that having such a large number of indicators and the process of ranking is confusing and might be confused with the IPC process. It was recommended that the WoS cluster to review and revise the severity-ranking calculator.

The presenter shared some of the ongoing initiatives put in place to overcome the above-mentioned challenges.

- Strengthening assessment working group
- Develop information sharing protocol
- Use data validation protocol
- Always possible to reach consensus when data credibility can be proven (SMART)
- Validation done by reputable sources (CDC-ACF).
- Joint assessment planning (standardizing and complementarity)

UTILIZATION OF NUTRITION INFORMATION AND SURVEY DATA IN THE MIDDLE EAST

This presentation focused on sharing experience of nutrition data by other sector partners. The Integrated Food Security Phase Classification (IPC) is a set of standardized tools that aims at providing a "common currency" for classifying the severity and magnitude of food insecurity. The presenter (Douglas Jayasekaran- IPC coordinator) mentioned that IPC does not collect data but it uses the available data to analyze the severity of acute and chronic food insecurity and acute malnutrition (while assessing possible contributing factors). IPC works with national authorities, as well as nutrition and food security clusters and sectors in country. Situation analysis tool to assess contributing factors to acute and chronic (IPC uses existing information). IPC studies outcomes indicators to make a statement on the severity and then look into contributing factors. The process works with national authorities (depending on the outcomes) as well as Nutrition Clusters. SMART surveys are a key

component and major source of information for the IPC process. It was mentioned that there has not been a lot of experience with the IPC process in the region (Sudan thus far for malnutrition and Potential from Yemen). Some possible collaborations in relation to advocacy and capacity building, integration of contributing factors in SMART to the extent possible; for example promotion of standardized methods with standardized indicators when integrating additional indicators (such as the SENS approach). The presenter mentioned that the next version of the IPC manual- includes a guide on what can be done to collect information when one does not have access to an area in humanitarian settings. It was mentioned that the SMART team could promote this message during trainings. The presenter mentioned that the main challenge to conducting IPC analysis in the region is the availability of data in MENA: availability of data on contributing factors. The presenter mentioned some of the lessons Learned: working with National Clusters has been effective, however sensitivities exist and plans takes time to be implemented. It is easier to integrate nutrition indicators into Food Security Assessments; however, this opens up much more issues in terms of data quality.

C. NUTRIDASH (UNICEF)

This session focused on utilization of nutrition data at global level. The presentation aimed at demonstrating to participants the significance of nutrition data for global monitoring and strategic planning. The presenter (Louise Mwirigi – UNICEF Global Information expert) shared that there is a lot of data being collected at country level from routine information management systems, population surveys (DHS, MICS, micronutrient surveys, national SMART, KAP), early warning systems, emergencies, and research. In order for UNICEF to monitor the progress of the interventions in the many countries of operation and as well strategically plan for resources. They developed a platform called NutriDash. NutriDash is online and it monitors nutrition program coverage and plans for supplies (forecasting done for Micronutrient powders, Vitamin A supplementation, deworming, and management of SAM). Data collection is a year behind. Quality checks are included (logical data checks, data cleaning, and data quality and review protocols). It is a global repository for both members and non-members on IYCF, Vitamin A, Micro nutrient powders (MNP), Deworming, salt iodization and SAM that also includes national policies. NutriDash provides a global monitoring platform with data coming in from 111 countries. Apart from the global monitoring of nutrition data, the platform has been key in providing support and evidence for advocacy of nutrition at global level. The main advantage of the platform is its homogeneity at country, regional and global level. There are several challenges that the platform is facing, quality of data is still a problem, coverage and respondent countries are not optimal. Efforts are made to address these challenges.

D. Utilization of nutrition data in the Middle East: advocacy and funding purposes

This presentation focused on utilization of nutrition data for advocacy purposes. The aim of the presentation was to highlight the synergy of good advocacy and data. The presenters (Rui and Jean-Patrick – Action Against Hunger Advocacy team) shared the importance of data for advocacy. It was mentioned that for advocacy to be successful it has to be based on evidence. Good quality data is critical in ensuring that key advocacy messages are reliable. Nutrition data helps to guide advocacy messages on key areas where resources are most needed. The presenters mentioned that for purposes of advocacy data must be contextualized. It is also important to focus on accuracy and systematization of data but one should avoid unnecessary sensationalism. It was noted that currently, only one percent of the development assistance is directed towards nutrition so maybe advocacy has

not been active enough. It would therefore be a useful in the future to focus on advocacy (merge advocacy and nutrition).

Some of the challenges for advocacy in nutrition in the region were; surveillance is not enforced by national health surveys; there is a lack of standardized methodologies for data collection; there is a lack of consistency in survey methodologies in conflict situations. Nutrition indicators are not properly presented in country health profiles. Nutrition aggravating factors are diluted in health statistics (nutrition and aggravating factors analyzed separately and no correlation is provided). There is no research conducted to demonstrate the impact of malnutrition on the socio-economic status in middle-eastern countries. There is a lack of stable investment to produce evidence-based pilots. Decision-makers are not technical expert in nutrition. Nutrition experts need to harmonize data collection and formulate key issues identified in the data. Data on nutrition is currently insufficient, in the region

A participant commented that the Global Nutrition Cluster (GNC) has developed a comprehensive advocacy strategy. It is important to link the discussions on data utilization to the GNC global advocacy strategy. Another participant commented that WFP is training its staff on data literacy to bridge the gap between those dealing with the data and others at the office (explain the difference between good and bad data and include visual vocabulary). A participant commented that as nutrition stakeholders in the region, they have a lot of data but they do not have a good idea on whom to go to and what language to use. Technical nutrition people are not equipped to package information and use it in a correct way and in a timely fashion. Need to understand the system and method of converting nutrition data into key advocacy messages.

Some key recommendations were provided to strengthen advocacy in nutrition in the region.

- Harmonized methodology for data collection provide more robust evidence based advocacy and should be mainstreamed across agencies
- Nutrition experts should prioritize and define the key issues based on malnutrition data
- Nutrition partners and governments need to be able to tailor the language and depth of technical details to the advocacy targets.

NEEDS ASSESSMENT – SMART

Group work was organized by country to brainstorm on the country-specific needs as well as the country-specific expectations from the SMART team. This exercise will allow SMART to better understand the gaps in order to tailor its support to stakeholders based in the Middle Eastern region. Below is a summary of needs and expectations from the countries in the region with regards to SMART support.

- Continued technical capacity building for the partners (NGOs and governments) in the region.
- Technical support on report writing and technical understanding and interpretation of data.
- Translation of SMART curriculum to Arabic for ease of understanding and use by partners and governments working in the region.
- Learning workshops on data utilization and interpretation.
- Generating evidence for advocacy and policy makers.
- Design and develop regional data repository to ensure easy access of nutrition information to partners and decision makers.

- Collaborate with academic institutions on research to provide guidance to partners on contextualized research to ensure updated nutrition information guidance is applied in the region.
- Technical support to nutrition surveillance systems in the region (Yemen and Syria)
- Provide technical guidance on remote training of SMART methodology
- Facilitate knowledge sharing on data and nutrition information in the region.
- Develop and share new techniques and innovations to facilitate quality data collection of nutrition information in the region.

CONCLUSION AND WAY FORWARD

The meeting ended with participants agreeing on a number of important points, as well as acknowledging areas where consensus was still necessary to achieve the shared objective of raising the profile of malnutrition in the region. There was agreement that high quality anthropometric assessment is required to produce credible, objective, valid, equivalent, and compelling information that can be used by decision makers at various levels. Accurate anthropometric data, while challenging to obtain, is critical for countries and other data users to focus programming appropriately to meet the needs of populations. However, capacity to collect and produce high quality, credible and timely data has to be embedded with capacity to fully understand, interpret and utilize this information to inform policy and programs in the region. Each country in the region, whether facing an emergency or non-emergency context, has strengths and opportunities for improving the way nutrition data is utilized and providing the much-needed evidence to influence nutrition policy in the region. There is room for collaboration among the various stakeholders in the region to develop survey plans that consider the country needs and constraints. There is also room to harmonize methodologies, protocols and questionnaires across the region, while some participants felt that harmonization of indicator definitions was essential. Participants also agreed on the importance of collecting high-quality anthropometric data using both Weight/height and MUAC in assessing malnutrition. There was a felt need to develop guidance on how to conduct good quality anthropometric training remotely in conflict areas. It also became apparent that in order to ensure ease of capacity transfer, translation to Arabic[5] of the key documents and curriculum on processes for training, field procedures, data cleaning, and reporting would provide data users (especially governments) with a greater understanding of the results and the context in which the data were collected.

The proposed next steps to achieve the shared objective of highlighting the problem of malnutrition in its different types as seen in the region included the following:

1. Adaption of the new SMART manual (SMART Manual version 2) to include guidance on remote training and translation of SMART package into Arabic language
2. Adaptation of the ENA software to consider automatic calculation of combined prevalence of malnutrition, (WH+MUAC), cross-tables WH/HA, HA/MUAC and WH/MUAC prevalence.
3. Sharing the outcome of the ongoing research and the evaluation of the novel mobile applications (SAM photo, Child Growth Monitoring, and the app for standardization tests) for an improved diagnosis of malnutrition and a better understanding of the different vulnerability profiles.
4. Sharing the conclusions on the CDC-led systematic review on Household Level Correlation of Food Security and Nutrition Indicators.
5. Strengthening the commitment and advocacy to ensure public access to raw data and develop a database (registry/repository) with survey data and protocols
6. Development of a framework for including additional indicators in SMART surveys

[5] Arabic is the predominantly spoken language in the region.

ANNEX 1: AGENDA

High level Technical Assessment Meeting
Amman, Jordan, February 19-20, 2018

Agenda

Morning sessions will start at 9:00 am and afternoon sessions will end at 5:00 pm.

DAY ONE	MONDAY, FEBRUARY 19th 2018
Time	**Content**
9am – 10:30am	**1) Welcome** • Introduction of Participants. • Review of Logistical and Administrative arrangements (lunches/WC/exits). • Review of Agenda. Introduce Parking Lot. **2) Introduction of information management and data in the Middle East** • *Presentation by UNICEF MENARO* **3) SMART Strategic Framework 2018 -2020** -Overview of SMART Global Strategy 2018-2020. -Overview of SMART Middle East 2018-2020 • *Presentation by SMART*
11am – 12:30pm	**Detection and utilization of WHZ and MUAC under nutrition prevalence's** **1) Importance of including both WHZ and MUAC for Under nutrition prevalence (Global Experiences)** • *Presentation by Action Against Hunger France* **2) Concordance between the estimates of wasting measured by weight-for-height and by MUAC for classification of severity of nutrition crisis** Presenter: Dr. Oleg Bilukha (Centre for Disease Control) **3) Using WHZ and MUAC for caseload calculation. Case study in Yemen.** • *Presentation by UNICEF Yemen*
1:30pm – 3pm	**Research and innovation to anthropometric measurements** **1) OptiDiag research studies.** • *Presentation by Action Against Hunger France* **2) SAM Photo diagnostics** • *Presentation by Action Against Hunger Spain*

	3) Child Growth Monitoring using Infra-red • *Presentation by Welthungerlife*
3:30pm – 4:30pm	**Remote training of SMART methodology** **1) Experience from Syria cross-border on SMART remote training.** • *Presentation from Gaziantep TWG team* **2) Experience on data collection in conflict areas within Syria** • Presentation by Independent consultant
4:30pm – 5pm	**Wrapping up Day 1**
DAY TWO	**TUESDAY, FEBRUARY 20th 2018**
9am – 10am	**Mobile data collection: experiences from the field** **1) Use of mobile data collection for national nutrition surveys – experiences from various countries** • *Presentation from Center for Disease Control (CDC)* **2) SMART Learning resources** • *Presentation by SMART*
10am – 11am	**Application of SMART beyond Anthropometry and Mortality data** **1) Field experiences from Yemen on Integrated assessments using SMART Methodology.** • *Presentation from Yemen Nutrition Cluster* **2) Guidance on inclusion of additional indicators to a SMART survey.** • *Presentation from SMART and Center for Disease Control (CDC)*
11:30am-1pm	**Utilization of Nutrition information and survey data in the Middle East: programmatic, advocacy and funding purposes** **1) Nutrition surveillance system – Syria** • *Presentation from Gaziantep cross boarder Syria response* **2) Experiences from MENA Region for programming** • *Presentation from UNICEF MENARO* **3) Utilization of Nutrition data for Programming** • *Presentation from UNICEF New York* **4) Utilization for IPC Analysis** • *Presentation from IPC global team* **5) Experiences from MENA Region for advocacy** • *Presentation from ACF-MERO*
2pm-3pm	**Needs assessment on the Middle East - consultation**
3:30pm-4:30pm	**Discussion on points from Parking Lot**
4:30pm-5pm	**Conclusion and Way Forward**

ANNEX 2: PARTICIPANT LIST

S/N	Prefix	First name	Last name	Organisation/ Agency	Country of work	Title
1	Dr.	Saja	Abdullah	UNICEF	Jordan	Nutrition specialist
2	Dr.	Oleg	Bilukha	Centres for Disease Control	USA	Associate Director of Science
3	Ms.	Eva	Leidman	Centres for Disease Control	USA	Epidemiologists
4	Mr.	Trenton	Dailey-Chwalibóg	Action Against Hunger -HQ	France	Research Project Manager
5	Ms.	Sura	Alsamman	Save the children	Jordan	nutrition Program Manager South Central Syria
6	Mr.	Shahzad	Ajmal	Action Against Hunger - MERO	Jordan	Regional MEAL Adviser
7	Ms.	Leen	Daoud	World Food Programme	Jordan	Programme Associate
8	Ms.	Gabriele	Fander	MEDAIR	Syria	Health and Nutrition Advisor
9	Dr.	Anna	Ziolkovska	UNICEF	Yemen	Nutrition Cluster Coordinator
10	Mr.	Nahashon	Kipruto	ACF	Yemen	HOD surveillance
11	Ms.	Adelaide	Challier	ACF	France	Health and Nutrition Technical Advisor
12	Ms	Vilma	Tyler	UNICEF	Jordan	Regional Nutrition Adviser
13	Dr.	Omar	Obeid	American University of Beirut	Lebanon	Professor of Human nutrition
14	Mr.	Nagib	Abdulbaqi	UNICEF	Yemen	Nutrition specialist
15	Ms.	Lindsay	Baker	Action Against Hunger	Amman	Co-coordinator WoS Nutrition Cluster
16	Mr.	Jean Patrick	Perrin	Action Against Hunger	Amman	Advocacy Advisor Middle East
17	Mr.	Rui	Alberto Duarte	Action Against Hunger	Amman	Advocacy Advisor Middle East
18	Ms.	Louise	Mwirigi	UNICEF-New York	USA	Nutrition Specialist (Information)
19	Mr.	Stephen	Chua	SRD Foundation	Jordan	Health Advisor
20	Mr.	Ahmad	Aldaif	Mercy-USA	Turkey	Health and Nutrition coordinator
21	Ms.	Gwenaelle	Garnier	WFP	Yemen	Emergency nutrition officer
22	Mr.	Mikel	Belausteguigoitia	Action Against Hunger	Syria	Information Manager
23	Mr.	Richard	Mwanditani	Save the children	Yemen	Nutrition Advisor
24	Ms.	Joëlle	Zeitouny	FEWS NET	Lebanon	Regional Food Security Specialist
25	Dr.	Mayyas	Altawel	MEDAIR	Syria	health officer
26	Ms.	Charlotte	Le Clercq	Action Against Hunger	Syria	MEAL Adviser
27	Mr.	Shabib	Alqobati	UNICEF	Syria	Whole of Syria Information Management officer
28	Dr.	Hossain	Moazzem	UNICEF	Iraq	Chief of Health and Nutrition

29	Ms.	Christine	Fernandez	Save the children	Jordan	Nutrition Advisor
30	Ms.	Mona	Maman	Physicians Across Continents	Turkey	Nutrition Coordinator
31	Ms.	Isabel	Periquito	World Health Organization	Yemen	Nutrition Officer
32	Ms.	Buthayna	Alkhatib	UNICEF	Jordan	Health and Nutrition specialist
33	Ms.	Victoria	Sauveplane	Action Against Hunger	Canada	Senior Project Manager
34	Ms.	Jana	Daher	Action Against Hunger	Canada	Project Officer
35	Mr.	Hailu	Wondim	Action Against Hunger	Canada	Emergency Needs Assessment Manager
36	Mr.	Zachary	Holden	WFP	Egypt	Regional data coordinator
37	Dr.	Moufida	Ben Hamed	MoH - Libya	Libya	Nutrition Dept NCD
38	Dr.	Ghassan	Karem	MoH - Libya	Libya	Primary Health Director
39	Dr.	Adel	El Taguri	MoH - Libya	Libya	Nutrition quality director
40	Ms.	Sittana	Ahmed El-Sayed	UNICEF-MENARO	Jordan	C4D Specialist
41	Mr.	Hassan	Ali	Action Against Hunger	Canada	Regional Advisor
42	Mr	Hassan	Abdelraziq	WFP	Jordan	Program officer Food sec.
43	Ms	Yasmine	Labahidi	WFP	Syria	Nutritionist
44	Ms	Mona	Shaikh	WFP	Syria	Nutrition Advisor
45	Mr	Nitesh	Patel	WFP	Egypt	Regional Nutrition Advisor
Online Participants						
1.	Mr	Douglas	Jayasekaran	IPC- global	Italy	IPC Global coordinator
2.	Mr.	Nagib	Abdulbaqi	UNICEF	Yemen	Nutrition survey specialist
3.	Dr.	Karanvir	Singh	UNICEF	Yemen	Nutrition specialist
4.	Ms	Laura	Medialdea Marcos	Action Against Hunger	Spain	Expert Research
5.	Mr	Joachim	Schultz	Welthungerhilfe	Germany	Research Expert
6.	Mr	Markus	Matiaschek	Welthungerhilfe	Germany	Research Expert
7.	Ms.	Erin	Boyd	Office of U.S. Foreign Disaster Assistance	USA	Nutrition expert