Harmonizing and mainstreaming the measurement of healthy diets

Technical expert meeting,
Bellagio, Italy,
28 November - 2 December 2022

World Health Organization
Food and Agriculture Organization of the United Nations
unicef
The Rockefeller Foundation

Harmonizing and mainstreaming the measurement of healthy diets

Technical expert meeting,
Bellagio, Italy,
28 November - 2 December 2022

World Health Organization
Food and Agriculture Organization of the United Nations
unicef
The Rockefeller Foundation

Harmonizing and mainstreaming the measurement of healthy diets: technical expert meeting, Bellagio, Italy, 28 November-2 December 2022

ISBN 978-92-4-008666-1 (electronic version)
ISBN 978-92-4-008667-8 (print version)

Suggested citation. Harmonizing and mainstreaming the measurement of healthy diets: technical expert meeting, Bellagio, Italy, 28 November-2 December 2022. Geneva: World Health Organization; 2023. Licence: CC BY-NC-SA 3.0 IGO.

Cataloguing-in-Publication (CIP) data. CIP data are available at https://iris.who.int/.

Contents

Acknowledgements

This meeting report is an outcome of the Healthy Diets Monitoring Initiative (HDMI) of WHO, UNICEF, and FAO, supported by The Rockefeller Foundation.

WHO, UNICEF, and FAO gratefully acknowledge the contributions of the Strategic Planning Group: Victor Aguayo, Francesco Branca, Jennifer Coates, Sara Farley, Edward Frongillo, Chika Hayashi, Lynnette Neufeld, Kuntal Saha, and Shelly Sundberg; and the Core group: Jennifer Coates, Edward Frongillo, Chika Hayashi, Sharmila Mysore, Lynnette Neufeld, Kuntal Saha, and Chris Vogliano of the Healthy Diets Monitoring Initiative (HDMI), for their overall support to this meeting.

WHO wishes to thank the developers of healthy diets metrics: Megan Deitchler, Anna Herforth, and Carlos Monteiro, for their participation in the meeting on behalf of their teams that developed healthy diet metrics and technical contributions to the background document for this meeting.

WHO also wishes to thank the TEAM Working Group on Diet Quality: Nancy Aburto, Silvia Alayon, Kaleab Baye, Elaine Borghi, Jennifer Coates, Omar Dary, Edward Frongillo, Chika Hayashi, Rebecca Heidkamp, Bridget Holmes, Luc Ingenbleek, Gina Kennedy, Vrinda Mehra, Sharmila Mysore, Lynnette Neufeld, Sarah Pedersen, Kuntal Saha, and Wenhua Zhao, for their technical contributions to the background document.

The host agencies express their sincere appreciation to the Bellagio design team for leading the meeting development process; and to the meeting planning committee: Mia Blakstad, Elaine Borghi, Jennifer Coates, Sara Farley, Edward Frongillo, Chika Hayashi, Lynnette Neufeld, and Kuntal Saha. WHO also wishes to thank Jane Badham for her contributions to the meeting preparation and facilitating the meeting.

Finally, WHO wishes to thank all participants (see Annex 2) and presenters for their time and thoughtful contributions during the meeting.

Acronyms

FAO	Food and Agriculture Organization of the United Nations
GDQS	Global Diet Quality Score
GDR Score	Global Dietary Recommendations Score
HDMI	Healthy Diets Monitoring Initiative
HIC	High-Income Countries
LMIC	Low- and Middle-Income Countries
MDD-W	Minimum Dietary Diversity for Women
NCD	Noncommunicable Disease
SDGs	Sustainable Development Goals
SPG	Strategic Planning Group
TEAM	Technical Expert Advisory Group on Nutrition Monitoring
UNICEF	United Nations Children's Fund
UPF	Ultra-Processed Foods
WHO	World Health Organization
WRA	Women of Reproductive Age

Glossary of terms

Term	Definition
Assessment	Determining the magnitude of a situation or problem, e.g., burden or prevalence
Construct	Phenomenon of theoretical interest that is real but may be observable or unobservable (i.e., latent)
Sub-construct	Characteristics or properties of a construct that together describe a construct or the phenomenon
Equivalence	A measure or indicator performs consistently across contexts, enabling assessment that is comparable across contexts
Framework	Basic conceptual structure of purposes, constructs or sub-constructs, instruments, indicators, etc.
Indicator	Demonstrates the presence or absence of a specific construct
Instrument or tool	A device for measuring the value of a construct under observation, e.g., a questionnaire
Measure	Assigns numbers to people or things to represent the relations among them to reflect the relative amounts of a specific construct
Metric	A measure or indicator
Monitoring	Determining how a situation is changing
Roadmap	Detailed plan to guide progress towards a goal
Survey	A mechanism to collect data from a sample of individuals, households, or other entities
Validity	Whether a measure or indicator is suitable for providing useful analytical measurement for a given purpose and context

Executive summary

Unhealthy diets are responsible for the greatest burden of morbidity (e.g., non-communicable diseases) and mortality worldwide, leading to adverse intergenerational impacts. In 2017, one in five deaths globally -- equivalent to 11 million deaths -- were associated with poor diets, and subsequent diet-related chronic diseases. Despite the importance of healthy diets for population health and well-being, there are no agreed upon universal healthy diets metrics. The World Health Organization (WHO), the United Nations Children's Fund (UNICEF) and the Food and Agriculture Organization of the United Nations (FAO) through their Healthy Diets Monitoring Initiative (HDMI) convened a technical expert meeting (28 November-2 December 2022, Bellagio, Italy) to reach an agreement on the recommended paths to defining metrics to compose a simple, unified, global framework for the monitoring of healthy diets.

Participants were united in the conviction that clear guidance and bold ambition is needed to position healthy diets metrics in the hands of those people and institutions poised to implement actions to achieve healthy diets. To do this, it is necessary and possible to match a host of vital needs (ranging from policy and planning needs to monitoring and better service provision to specific populations like women and children) with specific metrics for measurement.

This meeting establishes this case via several steps. Participants jointly endorsed the shared mission statement of the Initiative, **"Enable national and global decision makers and stakeholders to monitor and achieve healthy diets for people and the planet"** and agreed on key principles to this mission. The group identified a set of priority needs for healthy diets information at global and national levels. Based on the prioritized needs for a healthy diet metric, participants achieved consensus on four sub-constructs of a healthy diet construct: (1) Nutrient adequacy; (2) Macronutrient balance; (3) Diversity; and (4) Moderation. Monitoring these priority sub-constructs should provide information of diet quality relevant to all forms of malnutrition.

A central objective of this initiative is to offer clarity around which metrics are best suited for which needs and why, with a particular emphasis on national and global monitoring. Several key metrics were discussed based on a comparative assessment of healthy diets metrics conducted prior to the meeting. Four existing metrics were identified that have advantages to meet needs and reflect the specific sub-constructs of relevance: (1) Global Diet Quality Score (GDQS); (2) Minimum Dietary Diversity for Women (MDD-W); (3) Nova ultra-processed foods (UPF) score (Nova UPF score); and (4) Global Dietary Recommendations (GDR) score. Each of these metrics has strengths for informing different dietary information needs. There are differences in what the metrics were designed to measure; the types of data required and their availability; time needed for development, data collection and processing; the time and effort required of respondents; the validity of the metric for different population groups and countries; and the ability to adapt the metric for different country contexts or populations. Despite some strengths of the four metrics, there are gaps. Many of these gaps can be filled with further research. This Initiative seeks to elaborate a joint research agenda for strengthening the knowledge base related to the comparative strengths and fitness for purpose of these metrics.

The group recognized that a limitation to achieving the mission has been the fragmentation of efforts, and the perceived lack of consensus on what constitutes a healthy diet and how to measure it, despite existing evidence and some guidance by normative UN Agencies. A collective effort would enable the connection between those with identified needs to metrics and methods best suited to meet those needs. It would also enhance the potential for effective and sustained investment in efforts to monitor and achieve healthy diets. The ultimate intended impact is improved diets and nutrition and a healthier population and planet. To this end, the group developed a phased roadmap for the coming 2-3 years: **Phase 1:** Raising awareness about the *Healthy Diets Monitoring Initiative [May – June 2023];* **Phase 2:** Developing international guidance for healthy diets monitoring; raising funds for the *Initiative's* work plan; implementing the prioritized research agenda; and continuing to foster commitment *[July 2023 – December 2024];* and **Phase 3:** Facilitating the uptake of the international guidance on healthy diets metrics by countries and building a platform for ongoing engagement and improvement to collect and use healthy diets metrics for monitoring purposes *[January 2025 onward].*

Each phase has its specific outcomes – starting from raising awareness about this initiative, building consensus on healthy diets metrics, articulating a value proposition for global and national healthy diets monitoring, activating co-creation and co-ownership among key stakeholders, developing a communications strategy and methods, establishing key milestones ahead and how to monitor progress toward achieving them, developing international guidance and uptake of healthy diets metrics by countries to monitor progress and achieve other priority country aims for action, and building a joint United Nations platform and/or annual publication where the healthy diets metrics are shared and updated on annual basis.

This meeting is the first step of the HDMI in the consensus process by broader nutrition community and other relevant sectors.

Chapter 1
Problem statement

Unhealthy diets are responsible for the greatest burden of morbidity (e.g., non-communicable diseases) and mortality worldwide, leading to adverse intergenerational impacts. The burden of diseases associated with unhealthy diets is a worldwide concern. In 2017, one in five deaths globally -- equivalent to 11 million deaths -- were associated with poor diet, and diet related chronic diseases. Many countries, particularly low- and middle-income countries, now grapple with nutrition and health issues caused by co-existing undernutrition, micronutrient deficiencies, and overweight and obesity. Therefore, healthy diets are critical for achieving the Sustainable Development Goals (SDGs), including 1, 2, 3, 10, 12, and the World Health Assembly global nutrition targets.

Despite the importance of healthy diets for population health and well-being, there are dietary intake indicators among the Sustainable Development Goals or the global nutrition targets endorsed by the World Health Assembly for tracking countries' commitments or progress towards improving populations' dietary behaviors.

This omission is dangerous and consequential. Robust data on what people eat and drink should be the foundation for the design and implementation of policies, programmes, targeted actions, and messaging to achieve healthy diets. Most countries track anthropometric data and food availability, and many generate such data at household level, but few countries routinely collect nationally representative information about the foods that people are actually eating. While the collection of detailed quantitative dietary data remains critical for many purposes, the collection of data using simpler instruments offers an opportunity to gather data for the purpose of monitoring of diets at scale more frequently. The lack of translation of data for non-technical audiences remains a gap. The limited uptake of dietary data is due, at least in part, to the lack of consensus on which measures, and indicators capture the essence of healthy diets with validity across settings and populations. This lack of consensus deters countries and donors from investing in dietary data collection, hampering the tracking of their progress towards improved diets.

In collective recognition of this challenge and the need for consensus and action, WHO and UNICEF, through their Technical Expert Advisory Group on Nutrition Monitoring (TEAM), have joined forces with FAO to resolve these issues and chart a way forward through the Healthy Diets Monitoring Initiative (HDMI).

1.1 Technical expert meeting

Building on the outputs of the technical consultation in May 2021 on measuring healthy diets[1] convened by the WHO-UNICEF TEAM, FAO and USAID, there was the need to move toward consensus on which healthy diets metrics would best fit different purposes for monitoring. As a way forward to achieving the objectives of the Healthy Diets Monitoring Initiative, a technical expert meeting on 'Harmonizing and Mainstreaming Measurements of Healthy Diets Globally' was convened to engage with key stakeholders who work on the assessment and monitoring of healthy diets, and expert users of such metrics, and stakeholders at national level. The meeting was hosted by The Rockefeller Foundation at its Bellagio Center in Italy from 28 November to 2 December 2022. See **Annex 1** for the meeting agenda and **Annex 2** for the list of participants.

This meeting report is structured in three chapters. **Chapter 1** describes the problem statement, the technical expert meeting and its objectives and expected outputs, and mission and key principles agreed upon during the meeting. **Chapter 2** outlines the approach to global and national assessment and monitoring, including priority needs for healthy diets assessment and monitoring, sub-constructs for global and national monitoring, existing healthy diets metrics, research gaps and essential research questions. **Chapter 3** lays out a roadmap incorporating a value proposition for global and national healthy diets monitoring, how best to activate co-creation and co-ownership among key stakeholders, a communications strategy and methods, and key milestones ahead and how to monitor progress toward achieving them.

In addition to this meeting report, a *'Statement on monitoring healthy diets globally'* including a call to action has been issued for building consensus and engagement of and support from broader nutrition community.

[1] Report of the "Technical consultation on measuring healthy diets: concepts, methods and metrics". Virtual meeting, 18–20 May 2021. Geneva: World Health Organization; 2021. Licence: CC BY-NC-SA 3.0 IGO. https://www.who.int/publications/i/item/9789240040274

1.1.1 Objectives

The main objective of the meeting was to convene some of the key stakeholders amongst the broad community working on monitoring of healthy diets and associated health outcomes to reach an agreement on the recommended paths to defining metrics to compose a simple, unified, global framework for the monitoring of healthy diets and devise a process for building broader consensus around the agreements achieved.

Specific objectives for the meeting were to reach consensus on:

1. Population purposes that are important to help countries improve healthfulness of diets
2. Sub-constructs of healthy diets that should be measured for the different purposes
3. The state of the evidence for various indicators to reflect constructs/sub-constructs, aligned with the various purposes
4. Promising data collection instruments and measures that could be used to generate potential indicators
5. A process (i.e., roadmap) to develop a framework for monitoring healthfulness of diets, including identifying challenges and priority research gaps, roles and responsibilities, and timeline of work.

1.1.2 Expected outputs

Expected products following this meeting include:

1. Technical expert meeting report.
2. Statement on monitoring healthy diets globally.
3. A peer-reviewed perspective article describing the population purposes for using healthy diets data and agreed-upon sub-constructs to be measured for each purpose.
4. A framework (working document) that articulates the current evidence of various indicators to measure those sub-constructs, as well as tools, and resources to collect data for the varying purposes.
5. A roadmap to address research gaps including proposed tasks, roles, responsibilities, and timeline for achieving the final healthy diets monitoring framework. This entails development of a workplan for each priority research gap.

Chapter 2
Approach to global and national assessment and monitoring of healthy diets

2.1 Mission and key principles of the Healthy Diets Monitoring Initiative

A key step of the meeting was that the meeting participants jointly endorsed the shared mission of the WHO/UNICEF/FAO Healthy Diets Monitoring Initiative (HDMI) to:

Enable national and global decision makers and stakeholders to monitor and achieve healthy diets for people and the planet.

Six considerations informed the group's articulation of this shared mission:

1. Measurement needs for national and global levels can be distinct: the mission acknowledges both layers but does not consider them as identical.
2. Empowerment is key and representatives from low- and middle-income countries (LMICs) must be co-creators and co-owners of the initiative. The mission statement itself was first co-created through a consensus process, inclusive of four LMIC representatives from Brazil, Ghana, Indonesia, and Thailand, and spells out plans for a consultative process to further evolve the mission statement itself, as well as other content within this document as a function of inclusion of additional voices, recognizing the value of all food system voices, with particular emphasis on LMIC actors.
3. The mission must evoke a commitment to action. The mission specifies the link from assessment and data to more effective policies and programmes.
4. Supporting the application of the mission should be a simple theory of change that articulates the linkages among current gaps in action related to healthy diets, how data can support filling those gaps, how this can lead to better policies and programmes across sectors (health, agriculture, trade, social protection, environment, etc.), and can ultimately lead to better human and planetary outcomes. This theory of change should be developed in early phases of the roadmap.
5. The link to the environment is explicitly made because, even though this specific effort focuses on measurement of diets for human health, such diets are important also for planetary health. Several efforts are ongoing to develop metrics to assess the environmental footprint of diets, but these metrics are nascent compared to those intended to assess diets for human health. With an intent to match the best of healthy diets metrics with the best of sustainable diets metrics, the mission is in provision of diets that are both healthy and sustainable. Monitoring and achieving progress towards healthy diets for people was identified as the priority need to be addressed, while monitoring and achieving healthy diets for the planet, especially with climate change, was identified as a longer-term need.
6. The value of the HDMI must be clear (see **chapter 3** on value proposition). Fulfilling the mission equips all of those who pledge to undertake it with the statement on monitoring healthy diets globally to meet priority needs.

Key principles

The shared workplan undertaken by those who commit to this mission should uphold common principles. The meeting participants agreed on the following key principles:

- **Easy to understand language** for a non-technical audience
- Based on **scientific evidence**
- **Inclusive** of perspectives of countries throughout the world
- **Metrics should be feasible** to fund and roll out at scale, i.e., feasible to collect and integrate into existing surveys, and feasible to compare and share in existing data dissemination platforms.

- **Operationalizable**, i.e., possible for countries to implement.
- **Data should be responsive** to country needs, perspectives and commitments.
- Encouraging of **collaboration.**
- **Rights-based**, i.e., contributing to the right to healthy food.
- **Actions of the workplan should be flexible** to encompass developments (e.g., from science) and needs (e.g., from local decision makers or consumers).

2.2 Needs for assessment and monitoring of healthy diets

Participants identified five priority needs for which healthy diets information is crucial at global and national levels:

1. National and global monitoring toward healthy diets targets and commitments.
2. Assessing magnitude of the diet-related malnutrition in different population groups.
3. Targeting population groups for appropriate interventions.
4. Formulation of evidence-based policies and programmes.
5. Advocacy, sensitization and awareness creation of the importance of healthy diets.

2.3 Sub-constructs of healthy diets for global assessment and monitoring

A healthy diet helps protect against malnutrition in all its forms and is a foundation for health and development (WHO). The exact make-up of a healthy diet will vary depending on age, sex, physiological status, lifestyle and degree of physical activity, cultural context, availability and affordability of local foods, and dietary customs. The basic constituents of a healthy diet, however, remain the same because the underlying human biology is universal. Therefore, the group agreed on 'healthy diet' as the construct that needs to be measured and considered what sub-constructs constitute a healthy diet.

Through the lens of the prioritized needs for a healthy diet metric, the community asked: what are the sub-constructs of a healthy diet that one may need to measure to meet these needs? Six sub-constructs were brought to the meeting for discussion based on a thorough review of the evidence:

1. **Nutrient adequacy:** Sufficient quantity and quality of nutrient (micronutrient, macronutrients, energy) intakes compared with nutrient requirements to meet dietary needs, without excess.
2. **Nutrient density:** Amount or relative proportion of nutrients per weight of food, per unit of energy (often, 100 kcal), or per serving.
3. **Macronutrient balance:** Balance of energy-yielding macronutrients: carbohydrates, proteins, and fats. The group acknowledged that proportionality would be difficult to measure.
4. **Diversity:** Diets composed of a diversity of foods derived from distinct healthy food groups. Dietary diversity between and within food group reflects a greater probability of meeting nutrient requirements.
5. **Moderation:** Limited intake of unhealthy foods, nutrients, ultra-processed foods (UPF), and ingredients that are associated with risks of non-communicable disease when consumed in excess (e.g., red meat, processed meat, UPF, sugar-sweetened beverages, salt, saturated fat).
6. **Food safety:** Foods are free of microbial pathogens, food-borne macro-parasites, toxins, and chemicals.

Sustainability was not considered as a sub-construct because it does not relate to the universal biology of human nutrition which is the focus here.

After discussion and agreement, two sub-constructs, i.e., food safety and nutrient density, were not considered further because they are characteristics or properties of food, not diets:

1. **Food safety:** It is critical to ensure that food is safe for human consumption: free of microbial pathogens, food-borne macro-parasites, toxins, and chemicals. However, it is difficult to assess dietary exposure to these hazards and such assessments require detailed multiple day-quantitative dietary data collected at the individual level in surveys. Therefore, it is recommended to measure using a separate indicator (or indicators) that assess adequate levels of protection, acceptable exposure levels, or conformity with international food standards.

2. **Nutrient density:** Nutrient density is a characteristic of individual food. Although nutrient density can be measured in a composite diet, the process of measuring this can be difficult in surveys. Additionally, not all nutrient density is desirable (e.g., sugar; salt, trans fat).

The four sub-constructs that achieved consensus as those best reflecting healthy diets for the purposes of assessment and monitoring were (in no particular order):

1. Nutrient adequacy
2. Macronutrient balance
3. Diversity
4. Moderation

Prioritization of these sub-constructs for assessment and monitoring depends on purpose. Monitoring these priority sub-constructs, however, provides information of diet quality relevant to all forms of malnutrition: stunting, wasting, and underweight, micronutrient deficiencies, overweight, obesity, and diet-related non-communicable disease (NCD) risks**.**

2.4 Advantages of existing metrics

Several metrics have been developed to measure healthy diets. With the priority needs as the filter through which to appraise the strength of existing metrics and building on a comparative assessment of healthy diets metrics conducted by the *Institut de Recherche pour le Développement* (IRD) (the French National Research Institute for Sustainable Development)[2] four existing metrics were seen as having relative advantages to meet needs and reflect the specific sub-constructs of relevance. These four metrics are:

1. Global Diet Quality Score (GDQS)
2. Global Dietary Recommendations (GDR) score
3. Minimum Dietary Diversity for Women (MDD-W)
4. Nova ultra-processed foods score (Nova UPF score)

These metrics each have strengths for informing different dietary information needs. For instance, there are differences in what the metrics were designed to measure; the types of data required and their availability; time needed for development, data collection and processing; the time and effort required of respondents; the validity of the metric for different population groups and countries; and the ability to adapt the metric for different country contexts or populations; availability of clear cut-offs for interpretation, degree of quantification, and sensitivity to different health outcomes. The collective differences across these metrics mean that different metrics are better suited for certain uses than others. **Annex 3** presents a summary of the development and performance of the above four healthy diets metrics.

A central objective of this initiative is to offer clarity around which metrics are best suited for which needs and why, with a particular emphasis on national and global monitoring. Although several key metrics were discussed at the Bellagio meeting, the group recognizes that there are other measures and indicators that were not discussed at the meeting that also may be useful and relevant when considering how to design a "healthy diet" information system to meet a broad range of needs as specified in **section 2.2**.

The Healthy Diets Monitoring Initiative intends to consider a wide range of measures and indicators, working collectively to clarify and develop technical guidance regarding the strengths, limitations, and fitness for purpose of a broad range of data, tools, and metrics. This Initiative seeks to elaborate a joint research agenda for strengthening the knowledge base related to the comparative strengths and fitness for purpose of these metrics.

[2] Eric O. Verger, Mathilde Savy, Yves Martin-Prével et al. 2023. Healthy diet metrics: a suitability assessment of indicators for global and national monitoring purposes. Geneva: World Health Organization; 2023. Licence: CC BY-NC-SA 3.0 IGO.

2.5 Research gaps and opportunities

Despite the many strengths of the four metrics and perhaps others, there are gaps and opportunities to seize. Many of these gaps can be filled with further research. Views across the full group regarding opportunities and research actions to fill gaps across metrics are noted below, along with specific research questions that follow-on efforts should prioritize.

2.5.1 Application of available metrics

Research questions

1. What are the costs of implementation of healthy diets monitoring (and the components that constitute the total cost from adaptation of the metric through to data sharing) versus the quality and usefulness of information gained?
2. For what purposes do we need more quantitative dietary survey data and for what purposes can semi-quantitative data or non-quantitative (e.g., food group-based) metric data suffice?

Action points

1. Agree on what it takes to get available metrics shelf-ready to be inserted into national, regional, and global monitoring processes, such as SDG 2.0.
    a. Understand if the broader nutrition community supports the idea of an SDG2 metric focused on healthiness of diets, and if so, which metric or metrics would be suitable candidates.
    b. Identify a common set of existing data that can be used to generate multiple dietary metrics to understand performance of metrics and get more value for limited resources.

2.5.2 Validation and advancement of metrics

Research questions

1. How can the available healthy diets metrics be validated against health outcomes versus imputing predictive validity based on associations with more proximate variables (e.g., meeting dietary guidelines)?
2. What is the validity of the metrics for specific demographic groups (pregnant and lactating women, children older than 2 years of age, adolescents, etc.)?
3. What is the cognitive feasibility of communicating the same set of questions across different demographic groups?

Action points

1. Define the standards for validation across all metrics.
2. Define types of study designs needed for validation.
3. Organize lessons learnt regarding the relative strengths of various metrics through cross-metric validation in the same geographic and population contexts.

Given the contributions of the food system to exacerbating climate change, and the direct and indirect impacts of climate change on the ability of current/future generations to meet their dietary needs, we need to advance research to look at suitability for integration with potential environmental sustainability modules.

2.5.3 Advancing use of data in countries

Research questions

1. What are policy opportunities in countries to use the healthy diets metrics data that is available (such as to inform tax policy, health policy, etc.)? And how do we target the collection and analysis of additional data to serve those needs?
2. How best to collect data for children? What data collection platforms would need to be created or built on to collect dietary data for younger age groups?

Action points

1. Ensure that country decision makers co-own all that comes next and that the guidelines meet their needs.
2. Prioritize empowering LMICs to link dietary data to decision making.
3. Prioritize the creation of a case and coalition to encourage more robust normative guidance on unaddressed issues (such as on ultra-processed foods).

Chapter 3
Roadmap

The mission of this initiative is to *"enable national and global decision makers and stakeholders to monitor and achieve healthy diets for people and the planet."* A limitation to achieving this mission has been the fragmentation of efforts, voices speaking out of harmony, and the perceived lack of consensus on what constitutes a healthy diet and how to measure it, despite existing evidence and guidance by normative UN Agencies. This limitation has led to lack of investment in the generation of dietary data and lack of progress towards monitoring and achieving healthy diets. Many groups have made critical contributions to this agenda and already have well-established (formal or informal) engagement that have advanced several elements critical to the mission at national and global levels. However, there is no consensus on the metrics that suitably capture the extent to which diets are healthy in a comparable way across settings and populations.

3.1 Value proposition

A *collective effort* is needed, as it would result in an evidence-based and consistent narrative on what constitutes a healthy diet and substantially greater investment and progress towards monitoring and achieving healthy diets. A collective effort would enable the connection among those with identified needs to metrics and methods best suited to meet those needs and enhance the potential for effective and sustained investment in efforts to monitor and achieve healthy diets.

Realizing the potential of a collective effort hinges on engagement among those who will collect and use the data in countries (policy makers, academic/research institutes, and practitioners), those that support and consolidate such efforts (UN and international organizations), those who fund such efforts (international and national donors and financers), those in civil society who care and strive for the achievement of healthy diets (civil society, indigenous organizations, etc.), and those with the knowledge and skills to develop and validate metrics. A collective effort on the assessment and monitoring of healthy diets has specific value to each of these five essential stakeholder groups.

1. For **national governments**, participation in this collective effort will provide:
    a. Clear and consistent guidance and support to match needs with metrics.
    b. The data to track progress in an evidence-based and consistent manner towards diet-related targets and commitments.
    c. A strong and united case for investment in collection, analysis, and use of dietary data.
    d. Timely data for advocacy, policy and program planning and related purposes.
    e. Data investments in individual countries that contribute to global collective efforts to improve healthy diets monitoring and action.

2. For **UN agencies and international organizations**, participation in this collective effort will provide:
    a. A platform for collective action towards transforming food systems and achieving healthy diets.
    b. A platform for soliciting input from donors and civil society and inviting deeper membership in UN agencies to create fora for knowledge sharing and co-design of strategy.
    c. The evidence to develop clear and consistent guidance on specific types of dietary data best fit to address needs.
    d. The evidence to develop guidance to inform policies and program for achieving healthy diets.
    e. The data to track progress in an evidence-based and consistent manner towards diet-related targets and commitments.
    f. Quality data and more data for advocacy, planning and related purposes.

3. For **donors and financers**, participation in this collective effort will:
   a. Provide clear and consistent guidance on investment priorities for dietary data collected to address specific global and national needs.
   b. Provide clear information about the impact of investments based on better evidence on assessing healthy diets. This information will help to make a strong business case for investment in the collection and use of dietary data including healthy diets metrics data.

4. For **civil society organizations**, participation in this collective effort will:
   a. Provide evidence to inform advocacy, communication (including media), and collective action.
   b. Provide context-appropriate tools to monitor progress toward healthy diets related targets and commitments.

5. For **researchers, including metrics developers**, and survey developers/implementers participation in this collective effort will:
   a. Enhance impact potential by amplifying their voice and enabling reach to broader groups of stakeholders.
   b. Increase opportunities for funding to address prioritized metric development and validation questions; participation of researchers should help improve the quality, analysis, and synthesis of data on healthy diets at national and global level.
   c. Increase collaboration and demand for data on healthy diets as well as sharing of data sets, insights, and learning.

3.2 Activating key stakeholder co-creation and co-ownership: process and communications

Activating co-creation and co-ownership among the five key stakeholder groups is essential. A process that facilitates consensus building must be designed and rests on several assumptions:

- A simple theory of change needs to be developed.
- To develop guidance on monitoring healthy diets, the Initiative must support the evolution of the metrics and resolve the open questions about the differences in results when using different metrics with the same country data. Establishing this insight as quickly as possible through research is a time sensitive necessity to advance the process of consensus building.
- While recognizing the power of consensus across global UN agencies and the signaling that exerts, the process this effort will adopt should be rooted in listening to national country governments ***first*** and then advance to regional and global spaces for further dialogue.
- Synthesize insights and needs into directions for global guidance and ensure active open feedback loops between national and global layers and stakeholders involved.
- Commit to growing the tent to include multiple sectors (e.g., agriculture, education) and establishing a coalition of coalitions. Building a movement and the shared space within it will need to be characterized by mutual support and a commitment to sharing and learning.

Phase 1:
Raising awareness on the value of dietary metrics and advancing consensus

[May – June 2023]

Participants identified four levels of actors (people and institutions) to engage in this effort. They should be either informed about the initiative, its objectives and activities and/or involved at different capacities, e.g., for technical work, as users of the metrics and tools, and for funding this initiative in its future endeavours.

1. **National governments**
   - Engage national governments to build awareness on the importance of dietary data including metric data. Lead in-country advocacy, with support from the initiative as needed.
   - Create spaces where national stakeholders can share experience, needs, and aspirations with respect to diets as a key determinant of nutritional status, particularly for vulnerable populations such as children, women, and marginalized groups and how dietary data could inform policies and improve and accelerate efforts to reduce all forms of malnutrition and improve human and planetary health.
   - Elevate countries committed to achieving healthy diets on global stage to expand beyond focus on nutrients to whole of diet and draw the explicit link to their food systems transformation for healthy diets agenda.
   - Encourage countries with forthcoming food/nutrition/health surveys to include dietary metrics in the package of data to inform relevant targets and policy.
   - Identify champions within countries to seek investments, particularly in influential countries that invest in their own regions.

2. **UN agencies and International Organizations**
   - Develop a clear time-bound work plan and establish mechanisms to formulate the joint research agenda across UN agencies on answering the question of comparative insights/value derived by various metrics and the implications of those in a single country context.
   - Build a clear plan with metric developers regarding their research efforts as part of developing a global guidance on healthy diets monitoring.
   - Initiate a process to test the assumptions related to fit of various data collection tools and metrics to identified needs in several countries involving independent experts.
   - Expand the TEAM Diet Quality Working Group, currently comprised of FAO, UNICEF, WHO, USAID and TEAM experts, to be more inclusive and reflect a broader group of expert voices; this should be done through a consultative process to engage more experts and countries.
   - WHO will update its global guidance on healthy diets in 2023.
   - Formally invite WFP to be part of the Initiative to cover four UN agencies working in this area.
   - Deliver a consistent zero draft Bellagio Consensus Statement across the UN agencies to signify this effort is: (1) shared, (2) on-going, (3) participatory; issuance across the 3 (4 with WFP) UN communications platforms simultaneously.
   - Signal support to the national/global policy processes to prioritize action on healthy diets at country level. For example, seek to organize a side event on healthy diets at the World Health Assembly 2023 and the UN Food Systems Summit stocktaking for 2023.
   - Take a decision (and act on it as appropriate) with regards to preparing a proposal for the inclusion of healthy diets indicators in SDG monitoring.
   - Establish process to develop guidance on monitoring healthy diets for country and global use/application
     - Develop operational plan for specific research streams on multiple metrics (those examined at the technical expert meeting and not); some of which entails commissioning further research.
     - Develop scenarios/options on how metrics and data collection tools can be applied to specific uses.
     - Present the HDMI in regional and international fora.

3. **Dietary assessment experts and metric developers**

- Engage with dietary assessment experts to offer clarity on the metrics to characterize diets at national level and globally, and to have visibility of validation research plans.
- Commit to collaborate on joint data collection and analysis.
- Initiate a process to solidify consensus as to how to match needs to metrics.

Outcomes of phase 1:

1. Country request to formulate UN guidance and to establish targets for diet improvement.
2. Short summary document on current state of diet quality metrics.
3. Workplan for HDMI including prioritized research on diet quality measurement and metrics.

Phase 2:
Rollout of consensus statement

[July 2023 - December 2024]

1. **National Governments**

- Create regional convenings around regional efforts (coordinated with regional bodies and regional convenings) to invite multiple national government representatives (health, finance, food etc.) and other stakeholders to be a part of the journey. For example, ASEAN Commitment to Food Security, African Union Commission's Annual Africa Day for Food and Nutrition Security, African Union Year of Nutrition, and African Leaders for Nutrition Initiative's Continental Nutrition Accountability Scorecard (an initiative of the African Development Bank). This will help create an experience from this effort to bring diet into these constituencies to (1) Make the case for importance; (2) Establish the value proposition; (3) Share the metrics/platforms and the consensus achieved on what's known/unknown; and (4) Offer a process to support deeper integration into national planning of healthy diets measurement.
- Activate in-country commitment which entails reviewing national data collection efforts.
- Guide countries to establish taskforce consisting of relevant ministries, academic institutions, food consumption survey team, etc. to ensure concrete and sustainable action.

2. **UN and International Organizations**

- Develop webpage of the HDMI for comments and online consultation and open sessions for resolution of key issues.
- Engage and lead advocacy plans to include healthy diets and dietary data including metrics in regional and international fora (need list of events and responsible persons/agencies).
- Strengthen advocacy plan/opening for an SDG for dietary data and consider other plans for global diet quality target or monitoring framework.
- Use the World Food Day (16 October 2023) to present update of the tools/metrics and show progress.

3. **Dietary assessment experts and metric developers**

- Collectively engage in data collection and analysis with country research teams;

Outcome of phase 2:

1. Joint-UN guidance document on specific metrics and data collection instruments/tools to meet specific needs.
2. A global target for dietary improvement (currently only for sodium; go beyond) and global-national feedback loop.
3. A joint-UN guidance statement to advocacy/communications strategy.

Phase 3:

Rollout of international guidance for healthy diets metrics

[January 2025 – …]

1. Issue the clear guidance on specific metrics and data collection instruments/tools to meet specific needs (example: a clear short menu of options)
2. Set up a dissemination plan and country support strategy
3. Build clear feedback loop:
    - Integration in a multitude of regional, global, country fora to:
        - Track and increase use of dietary data for global reports (SOFI, GNR) - intercountry comparisons and longitudinal analyses
        - Analyze the impact of policy measures on healthy diets metrics (e.g., through modeling)

Outcome of phase 3:

Healthy diets metrics are used to monitor country progress and achieve other priority country aims for policy, planning and beyond. A joint UN platform and/or annual publication where the healthy diets metrics are shared and updated on annual basis.

Annex 1

Meeting agenda

Harmonizing and mainstreaming measurement of healthy diets globally technical expert meeting

Bellagio, Italy, 28 November - 02 December 2022

When	What	Who
Day 1: Monday, 28 November		
	Participant's arrival	
3:00-5:00 pm	Afternoon activities	All in-person participants
Day 2: Tuesday, 29 November		
9:00-9:30	1. Frame the overall day and convening Welcome remarks	Jennifer Coates Sarah Farley
9:30-9:50	2. Community Convening Agreement	All in-person participants
9:50-10:15	3. The WHO/UNICEF/FAO Healthy Diets Monitoring Initiative: Case for a consensus statement and shared vision	Edward Frongillo All in-person participants [**virtual participants**]
10:15-11:00	4. Align our mission & common principles	All in-person participants
11:00-11:20	Break	
11:20-12:15	5. LMIC perspectives on monitoring healthy diets	Facilitator: Marie Ruel Panelists: Umi Fahmida Amos Laar Carlos Monteiro Emorn Udomkesmalee All in-person participants [**virtual participants**]
12:15-1:00	6. (i) Identifying priority needs for healthy diets information at global and national levels; and (ii) Identifying priority subconstructs for healthy diets information – Part 1	Preassigned small groups
1:00-2:00	Lunch	
2:00-3:25	7. (i) Identifying priority needs for healthy diets information at global and national levels; and (ii) Identifying priority subconstructs for healthy diets information – Part 2	Preassigned small groups
3:25-3:45	Break	
3:45-4:30	8. Sharing where each small group landed on identifying priority information needs and identifying priority subconstructs	All in-person participants
4:30-5:00	9. Recap of Day 2 and preview of Day 3 Participants reflect and share	Chris Vogliano
Day 3: Wednesday, 30 November		
9:00-9:15	10. Opening and connections	Edward Frongillo
9:15-9:45	11. The state of the evidence on healthy diets metrics and tools	Eric Verger All in-person participants [**virtual participants**]
9:45-10:15	12. Clarifying questions and discussion regarding IRD presentation	Eric Verger All in-person participants [**virtual participants**]

When	What	Who
10:15-10:35	Break	
10:35-11:30	13. State of the evidence – Part 1: Considering the criteria and population purposes previously discussed, what are the strengths of the metrics and tools presented in the paper?	Preassigned small groups
11:30-12:15	14. State of the evidence – Part 2: Given the state of validation, where are there validation gaps (rank order metrics and tools in terms of where there's consensus that more validation work is needed)	Preassigned small groups
12:15-1:00	15. State of the evidence – Part 3: How can we translate areas of improvement specific to different metrics and tools into actions that can be taken to advance the research effort?	Preassigned small groups
1:00-2:00	Lunch	
2:00-3:10	16. State of the Evidence report back	All in-person participants
3:10-3:30	Break	
3:30-4:30	17. Scaling up healthy diets monitoring: stakeholder engagement strategies – who are the stakeholders? How do we engage them?	All in-person participants
4:30-5:00	18. Recap of Day 3 and preview of Day 4 Participants reflect and share	Shelly Sundberg All in-person participants
Day 4: Thursday, 1 December		
9:00-9:15	19. Opening and connections	Sarah Farley All in-person participants
9:15-10:00	20. Communicating effectively through a consensus statement	TBD All in-person participants [**virtual participants**]
10:00-11:30	21. Bellagio consensus statement – Part 1	Preassigned small groups
11:30-11:50	Break	
11:50-1:00	22. Bellagio consensus statement – Part 2	Preassigned small groups
1:00-2:00	Lunch	
2:00-2:45	23. The WHO/UNICEF/FAO Healthy Diets Monitoring Initiative – Moving the agenda forward Q&A	Francesco Branca Victor Aguayo Lynnette Neufeld All in-person participants [**virtual participants**]
2:45-3:30	24. What milestones lie ahead? – Part 1	Preassigned small groups
3:30-3:50	Break	
3:50-4:30	25. What milestones lie ahead? – Part 2	All in-person participants
4:30-5:00	26. Recap of Day 3 and preview of what comes next (post-Bellagio) Participant sharing	Chika Hayashi Bridget Holmes Kuntal Saha on behalf of the 3 UN agencies All in-person participants
End of meeting		
Day 5: Friday, 2 December		
Travel day		

Annex 2
List of participants

IN-PERSON	Name	Affiliation
	Victor Aguayo	Director, Child Nutrition and Development, UNICEF, New York, USA
	Jane Badham	Managing Director, JB Consultancy, Johannesburg, South Africa
	Mia Blakstad	Senior Associate, Food Initiative, The Rockefeller Foundation, New York, USA
	Francesco Branca	Director, Department of Nutrition and Food Safety, WHO, Geneva, Switzerland
	Jennifer Coates	Associate Professor, Food and Nutrition Policy and Programs, Tufts University Friedman School of Nutrition Science and Policy, Boston, MA, USA
	Megan Deitchler	Director, Intake, Center for Dietary Assessment, FHI 360, Washington, DC, USA
	Umi Fahmida	Senior Researcher, South East Asian Ministers of Education Organization (SEAMEO) Regional Center for Food and Nutrition (RECFON), Jakarta, Indonesia
	Sara Farley	Vice President, Food Initiative, The Rockefeller Foundation, New York, USA
	Edward Frongillo	Director, Global Health Initiatives, Arnold School of Public Health, University of South Carolina, Columbia, SC, USA
	Chika Hayashi	Senior Advisor, Monitoring and Statistics and Unit Chief, Nutrition Data, UNICEF, New York, USA
	Anna Herforth	Research Associate, Harvard T.H. Chan School of Public Health, Harvard University, Boston, MA, USA
	Bridget Holmes	Nutrition and Food Systems Officer and Nutrition Assessment Team Leader, Food and Nutrition Division, FAO, Rome, Italy
	Amos Laar	Professor, School of Public Health, University of Ghana, Accra, Ghana
	Carlos Monteiro	Professor, Department of Nutrition, Universidade Estadual de São Paulo, São Paulo, Brazil
	Lynnette Neufeld	Director, Food and Nutrition Division, FAO, Rome, Italy
	Marie Ruel	Director, Poverty, Health and Nutrition Division, International Food Policy Research Institute, Washington, DC, USA
	Kuntal Saha	Technical Officer, Monitoring Nutritional Status and Food Safety Events, Department of Nutrition and Food Safety, WHO, Geneva, Switzerland
	Shelly Sundberg	Senior Program Officer, Nutrition, Bill & Melinda Gates Foundation, Seattle, Washington, USA
	Emorn Udomkesmalee	Senior Advisor, Institute of Nutrition, Mahidol University, Bangkok, Thailand
	Eric Verger	Research Fellow, Institut de Recherche pour le Développement (IRD), Montpellier, France
	Chris Vogliano	Technical Advisor, Food Systems, USAID Advancing Nutrition, Arlington, VA, USA

VIRTUAL

Name	Affiliation
Nancy Aburto	Included in TEAM DQ WG
Silvia Alayon	USAID Advancing Nutrition, USA
Boran Altincicek	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
Mary Arimond	Independent Consultant, USA
Kaleab Baye	University of Addis Ababa, Ethiopia
Ty Beal	Global Alliance for Improved Nutrition, Switzerland
Elaine Borghi	World Health Organization, Switzerland
Inge Brouwer	Wageningen University, Netherlands
Nuno do Carmo	EAT-Lancet, UK
Namukolo Covic	International Livestock Research Institute, Ethiopia
Julia D'Aloisio	Independent Consultant, Canada
Omar Dary	United States Agency for International Development (USAID), USA
Fabrice DeClerk	EAT-Lancet, UK
Jessica Fanzo	Johns Hopkins University, USA
Juliane Friedrich	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
Lawrence Haddad	Global Alliance for Improved Nutrition, Switzerland
Rebecca Heidkamp	Johns Hopkins University, USA
Maggie Holmes	United States Agency for International Development (USAID), USA
Luc Ingenbleek	World Health Organization, Switzerland
Gina Kennedy	Global Alliance for Improved Nutrition, USA
William A. Masters	Tufts University, USA
Vrinda Mehra	United Nations Children's Fund, USA
Dariush Mozaffarian	Tufts University, USA
Sharmila Mysore	USAID Advancing Nutrition, USA
Sarah Pedersen	United States Agency for International Development, USAID
Abigail Perry	World Food Programme, Italy
Marie Ruel	International Food Policy Research Institute, USA
Walter C. Willett	Harvard University, USA
Wenhua Zhao	China Centers for Disease Control, China

Annex 3

Summary of the development and performances of the four healthy diets metrics

	GDQS	GDR score	MDD-W	Nova UPF score
Use	Identification, monitoring and surveillance, policy and programme design, evaluation, and research	Identification, monitoring and surveillance, policy and programme design, evaluation, and research	Identification, monitoring and surveillance, policy and programme design, evaluation, and research	Identification, monitoring and surveillance, policy and programme design, evaluation, and research
Content	Holistic	Holistic	Specific (diversity)	Specific (moderation)
Cross-context equivalence	Scalar equivalence	Scalar equivalence	Scalar equivalence	Measurement equivalence
Validity for initial purpose	High	High	High	High
Population groups	NPNL WRA (and men to some extent)	Men and women aged ≥ 15 years	NPNL and lactating WRA[a]	Men and women aged ≥ 18 years
Context of validation studies	14 contexts in America, Africa and Asia	2 contexts: US and Brazil[b]	9 contexts in Africa and Asia[b]	1 context: Brazil[b]
Collection tool	Dedicated tool to be validated + Standard tool[c,d]	Dedicated validated tool + Standard tool[c]	Dedicated validated tools + Standard tool[c]	Dedicated tool validated in Brazil[b]
Ease of computation	High/Low[e]	High	High/Medium[f]	High
Ease of interpretation	Medium	High	High	Low/High[g]

[a] Other population groups are under investigation;
[b] Other contexts are under investigation;
[c] Quantitative 24-hour dietary recall;
[d] Food frequency questionnaires;
[e] High when the GDQS app is used to collect data, low when using quantitative 24-hour dietary recall or food frequency questionnaires;
[f] High when using the list-based method or the DQQ to collect data, medium when using open recall method;
[g] Low in terms of not having thresholds for interpreting the score yet, high in terms of lower scores being associated with higher diet quality.

Definitions of terms

Holistic: The metric assesses the adherence to dietary patterns that have been proven favorable for health.

Specific: Only one or two sub-constructs of the construct of healthy diets are assessed.

Measurement equivalence: Means that the constructs, items, and units are the same across contexts.

Scalar equivalence: Means the same as measurement equivalence, but in addition, the definition of zero is the same across contexts. In this case, average scores and prevalence values are comparable.

High validity for initial purpose: There is a demonstration that the metric indicates what it intended to assess, with an a priori adequate study design, in the appropriate context.

For more information, please contact:

FAO

Food and Nutrition Division Food and Agricultural Organization of the United Nations

Viale delle Terme di Caracalla, 00153 Rome, Italy

Email: nutrition@fao.org

www. https://www.fao.org/nutrition/en/

UNICEF

Division of Data, Analytics, Planning and Monitoring

UNICEF

3 UN Plaza, New York, NY, 10017, USA

Email: data@unicef.org

www.data.unicef.org/nutrition

WHO

Department of Nutrition and Food Safety

World Health Organization

20 Avenue Appia, 1211 Geneva 27, Switzerland

Email: nutrition@who.int

www.who.int/nutrition

9789240086661

9 789240 086661