Health Sector Recommendations for Nutrition Indicators Collected Nationally in Nigeria

Federal Ministry of Health
Department of Family Health
Nutrition Division
Abuja

August 2022

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List of Acronyms and Abbreviations

ANC	Antenatal Care
ANRiN	Accelerating Nutrition Results in Nigeria
BMI	Body Mass Index
DataDENT	Data for Decisions to Expand Nutrition Transformation
DHS	Demographic and Health Survey
DHIS2	District Health Information System 2
DPRS	Department of Planning Research and Statistics
DQQ	Diet Quality Questionnaire
FMFBNP	Federal Ministry of Finance, Budget and National Planning
FMOH	Federal Ministry of Health
FGD	Focus Group Discussion
FIES	Food Insecurity Experience Scale
GHS	General Household Survey
GMP	Growth Monitoring and Promotion
HAZ	Height for Age Z-score
HH	Household
HRH	Human Resources for Health
HWISE	Household Water Insecurity Experiences
IFA	Iron Folic Acid
IPC	In-Patient Care
IPTp	Intermittent Preventive Treatment of malaria
ITN	Insecticide Treated Net
IYCF	Infant and Young Child Feeding
JMP WASH	Joint Monitoring Programme for Water Supply, Sanitation, and Hygiene
IMCI	Integrated Management of Childhood Illness
KII	Key Informant Interviews
LGA	Local Government Area
LLIN	Long-Lasting Insecticidal Nets
LSMS	Living Standards Measurement Survey
MDAs	Ministries, Departments, and Agencies
M&E	Monitoring and Evaluation
MAM	Moderate Acute Malnutrition
MDD-W	Minimum Dietary Diversity for Women
MICS	Multiple Indicator Cluster Survey
MIS	Malaria Indicators Survey
MIYCN	Maternal, Infant and Young Child Nutrition
MMS	Multiple Micronutrient Supplements

MNCHW	Maternal, Newborn and Child Health Week
MNDC	Micronutrient Deficiency Control
MNP	Micronutrient Powder
MUAC	Mid-Upper Arm Circumference
NAHI	Nutrition, Agriculture, and Health Initiative
NBS	National Bureau of Statistics
NCD	Non-Communicable Disease
NCN	National Council on Nutrition
NDHS	Nigeria Demographic and Health Survey
NGMP	Nutrition and Growth monitoring and Promotion
NFCMS	National Food Consumption and Micronutrient Survey
NGF	Nigeria Governors' Forum
NHFS	National Health Facility Survey
NHLMIS	Nigeria Health Logistics Management Information System
NHMIS	National Health Management Information System
NIS	Nutrition Information System
NNHS	Nigeria Nutrition and Health Survey/SMART Survey
NPHCDA	National Primary Health Care Development Agency
NSPAN II	National Strategic Plan of Action for Nutrition II (2021-2025)
OTP	Outpatient Therapeutic Programme
PNC	Postnatal Care
RMNCH	Reproductive, Maternal, Newborn, and Child Health
RUTF	Ready-to-Use Therapeutic Food
SAM	Severe Acute Malnutrition
SCFN	State Committee on Food and Nutrition
SDGs	Sustainable Development Goals
SQ-LNS	Small Quantity Lipid Nutrient Supplement
STEPS	WHO Stepwise Approach to NCD Risk Factor Surveillance
TBA	Traditional Birth Attendant
U5	Children Under Five Years of Age
UNICEF	United Nations Children's Fund
WASH NORM	Water, Sanitation, and Hygiene National Outcome Routine Mapping
WAZ	Weight for Age Z-score
WFP	World Food Programme
WRA	Women of Reproductive Age (15-49 years old)
WHZ	Weight for Height Z-score

Foreword

Nutrition is a government priority in Nigeria that necessitates effective policies and programmes for populations at risk of malnutrition. Relevant, accurate, complete, and timely data are needed to understand the nature, causes and scale of nutrition problems and to design, monitor and evaluate effective policies and programmes.

The Nutrition Division of the Federal Ministry of Health (FMOH) and its many partners are actively working to strengthen the nutrition information system (NIS) within the health sector. To achieve this, stakeholders involved in nutrition policy, programmes, data collection, and analysis need to together ensure availability of priority and comparable information across data sources and at the required frequency. Nigeria currently has many national data sources coordinated by various stakeholders, who should collaborate to address challenges related to coordination of indicators collected, definitions of those indicators, and timing of data collection.

It is therefore important to identify the unmet data needs of nutrition stakeholders in the health sector and make suggestions on how these needs can be met through existing data collection systems. This is the guiding purpose of this document which was developed by a NIS Task Team convened by FMOH. The document makes practical recommendations for collecting and making available priority nutrition data, recommended intervals for collecting different categories of nutrition indicators through household surveys and administrative data systems in Nigeria, and considerations for putting the recommendations into practice.

The development of these recommendations is an important step toward strengthening the data component of a NIS that serves the needs of nutrition stakeholders in the Nigerian health sector. It is my expectation that this document will be routinely used by government stakeholders involved in planning and implementing national-level nutrition data collection, partners who support data collection activities, and donors who finance data collection, to implement the recommendations and guide their work.

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Honourable Minister of Health
Federal Republic of Nigeria
Abuja
May 2022

Acknowledgements

The preparation of this document was led by the Federal Ministry of Health (FMOH) Nutrition Division with technical support from partners namely; Data for Decisions to Expand Nutrition Transformation (DataDENT), including the Institute for International Programs at Johns Hopkins Bloomberg School of Public Health, the Results for Development Institute (R4D), the University of Ibadan Department of Human Nutrition and Dietetics, and the Nutrition, Agriculture and Health Initiative (NAHI) Nigeria.

We are indeed appreciative to Bill and Melinda Gates Foundation for funding this work through DataDENT.

FMOH acknowledges all efforts towards making the development of the recommendations a reality. The efforts of DataDENT and members of the Nutrition Information Systems (NIS) Task Team listed in Appendix 1 is highly appreciated. We also acknowledge and thank the many stakeholders, including those at state level, who critically reviewed earlier drafts of this document (see Appendix 3).

This document also reflects the dedicated efforts of many stakeholders in the nutrition sector in Nigeria, including Government staff at Federal, State, and LGA levels, academia, development partners, and individual experts who shared their experiences and perspective during interviews which shaped this work. We thank the data collectors at the University of Ibadan and NAHI for their efforts to carry out formative data collection that informed these recommendations. We thank Transform Nutrition West Africa, a project of the International Food Policy Research Institute, for their support during the design of this work.

We give special thanks to the ministries, departments, and agencies that supported this work, including the FMOH Department of Planning, Research and Statistics (DPRS), the National Primary Health Care Development Agency (NPHCDA), the Federal Ministry of Finance, Budget and National Planning (FMFBNP), and the National Bureau of Statistics (NBS).

Undoubtedly, we are greatly appreciative of the leadership of Dr Binyerem Ukaire, the Head of FMOH's Nutrition Division, and the untiring efforts of officers in FMOH's Department of Family Health and Nutrition Division.

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May 2022

Executive Summary

1. Background

Relevant, accurate, complete, and timely information is needed by Nigeria's health sector to inform the development and implementation of nutrition policies and programs. The Federal Ministry of Health Nutrition Division has been working to strengthen the national Nutrition Information System (NIS) by bringing together key data from the periodic surveys and administrative systems currently implemented in Nigeria. These data sources involve different stakeholders in planning and implementation, which can present challenges for coordination of content, timing, and comparability of data included in the NIS.

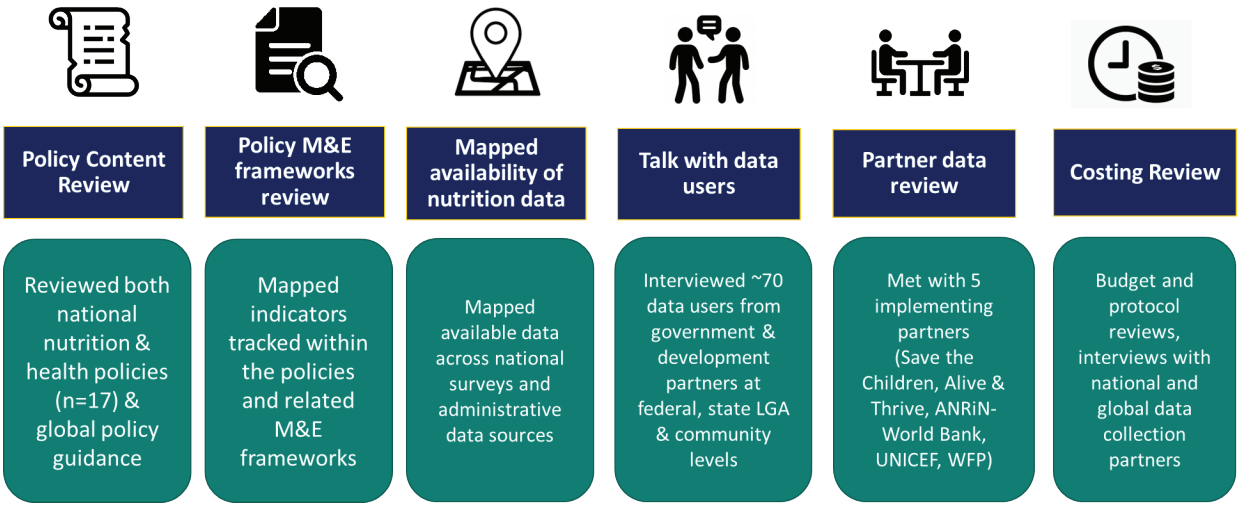
In 2021 the FMOH Nutrition Division convened a NIS Task Team to develop a set of recommendations in support of the NIS. The purpose of *"Health Sector Recommendations for Nutrition Indicators Collected Nationally in Nigeria"* is to:

- Identify health sector priorities for nutrition data collected through national surveys and administrative data systems
- Make practical suggestions for the inclusion of priority indicators across national surveys and administrative data systems
- Present considerations for putting these recommendations into practice

The primary audiences for these recommendations include government and development partners who develop nutrition monitoring frameworks and who are involved in the planning, implementing, and financing of national-level nutrition data collection.

The NIS Task Team comprised of members from the FMOH Nutrition Division, Federal Ministry of Budget and National Planning, FMOH Department of Research and Statistics, the National Primary Health Care Development Agency, National Bureau of Statistics, academia, civil society, and development partners. The group held a series of meetings between November 2021 and March 2022 to discuss and agree on the recommendations. Technical support was provided throughout the process by DataDENT with the University of Ibadan and the Nutrition, Agriculture, and Health Initiative. To inform the recommendations, the NIS Task Team used the findings from several preparatory activities (see figure below). …

Figure: Preparatory Work Carried Out to Support Development of Recommendations by the NIS Task Team



A total of 11 data platforms that are coordinated at the national level and involve health sector stakeholders were considered in the final set of recommendations: five surveys (Nigeria Demographic and Health Survey (NDHS), Multiple Indicator Cluster Survey (MICS), National Nutrition and Health Survey (NNHS/

SMART), National Food Consumption and Micronutrient Survey (NFCMS), and WHO Stepwise Approach to NCD Risk Factor Surveillance (STEPS NCD Survey)) and six administrative data sources (National Health Management Information System (NHMIS), Maternal, Newborn, and Child Health Week (MNCHW) data, National Health Facility Survey (NHFS), Nigeria Health Logistics Management Information System, National Health Workforce Registry Tool, Nigeria Governors' Forum Nutrition Scorecard).

2. Overarching Recommendations

The NIS Task Team identified six overarching recommendations for improved nutrition data coordination that informed more specific recommendations related to indicators and data platforms.

1. Invest continuously in both administrative and survey sources
2. Only collect data on nutrition indicators as often as needed to inform decision making
3. Adhere to a common schedule for national-level surveys that collect nutrition data
4. Consider monetary and non-monetary costs when deciding whether and how to collect nutrition indicators in national-level surveys and administrative data sources
5. Ensure that the resources required for the collection of high-quality and sub-nationally disaggregated nutrition data are available
6. Develop a set of core indicators with standard definitions to be used in all national surveys and administrative data collection

The overarching recommendations reflect the NIS Task Team's agreements on prioritized uses of data from administrative and survey sources, preferred frequency of reporting for different categories of indicators to monitor progress, and monetary and non-monetary cost considerations that should guide decisions about the inclusion of specific indicators across data sources.

3. Recommendations by Indicator

Section 3 includes recommendations for the collection of nutrition indicators across the periodic survey and administrative data sources. The indicators are grouped into five categories based on the UNICEF Malnutrition Framework: nutritional status, diet quality, intervention coverage, readiness for implementation, and the enabling environment.

For household surveys, the NIS Task Team made specific recommendations about the timing of nutrition-focused surveys (e.g., NNHS, NFCMS, STEPS NCD Survey) relative to multi-topic surveys (e.g., NDHS, MICS) using a 10-year horizon. The recommended timeline aimed to minimize costs while avoiding duplication and adhering to indicator reporting intervals recommended in Section 2.

Figure: Proposed 10-year Timeline of Surveys and NHMIS Tool Review

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Survey		NNHS(a)		NNHS		NNHS	NNHS			NNHS	NNHS(a)	NNHS
			NDHS(a)					NDHS(a)				
	MICS				MICS(a)				MICS(a)			
	NFCMS*					NFCMS*					NFCMS*	
		STEPS NCD Survey					STEPS NCD Survey					STEPS NCD Survey
		NHFS		NHFS		NHFS		NHFS		NHFS		NHFS
Administrative		NHMIS Tools Review			NHMIS Tools Review			NHMIS Tools Review			NHMIS Tools Review	

Key
(a): Includes weight and height data collection among children 0-59 months
***: Includes weight and height for children 6-59 months; not comparable to DHS/MICS/NNHS estimates among 0-59 months**

For each indicator type, the NIS Task team recommended whether to keep, remove, or add the indicator to a specific data source and noted special considerations for some of them. Summary tables of indicator-specific recommendations are presented for (a) household surveys, (b) NHMIS, DHIS-2, and MNCHW, (c) readiness to implement data, and (d) data on the enabling environment.

Key recommendations for indicators collected in household surveys include:

- Remove child height and weight from NNHS if these were collected in an NDHS or MICS within the previous two years
- Consider adopting the country-adapted diet quality questionnaire (DQQ) for the collection of simple diet quality indicators, including unhealthy foods across NDHS, MICS, and NNHS
- Advocate for the Food Insecurity Experience Scale (FIES) optional module in NDHS and also add to the MICS and NNHS; consider adding the Household Water Insecurity Experiences (HWISE) scale to the NNHS survey
- To allow for annual estimates of nutrition-specific intervention coverage, add (a) preventive iron supplementation among non-pregnant women of reproductive age and adolescents, (b) multiple micronutrient supplementation during pregnancy, and (c) micronutrient powder supplementation for children under the age of 5 to all surveys
- Drop WASH indicators from the NFCMS except for those required to calculate the household wealth index
- Add coverage of Nutrition-Sensitive Social Protection interventions to MICS and NNHS

Key recommendations for indicators collected in NHMIS, DHIS-2, and MNCHW include:

- Add (a) micronutrient supplementation during pregnancy, (b) children admitted for moderate acute malnutrition (MAM) treatment and (c) MAM treatment outcomes to NHMIS facility registers and NHMIS Monthly Summary Form
- Add mid-upper arm circumference (MUAC) screening results and breastfeeding counselling and support during postnatal care to NHMIS Monthly Summary Form
- Clarify NHMIS reporting guidance for Vitamin A supplementation
- Improve the data collection and reporting channels for nutrition interventions delivered during MNCHW

Readiness indicators reflect the availability of inputs needed to provide services and are captured in the Nigeria Health Logistics Management Information System, National Health Workforce Registry Tool, and the NHFS. Indicators specific to readiness for nutrition services are not captured in these sources. The NIS Task Team recommends adding:

- Availability of nutrition professionals
- Provision of key nutrition services in facilities
- Health worker training on priority nutrition services
- Health worker knowledge and adherence related to the provision of nutrition services
- Health facilities with basic medical equipment
- Health facilities with essential nutrition commodities and stock-outs

The enabling environment includes institutional, governance, financial resources, and social factors that support the implementation of nutrition policies and programs. For these data, the NIS Task Team recommends to:

- Promote visibility and use the NGF Nutrition Scorecard indicators
- Strengthen the operationalization of the nutrition budget tracking indicator under the NGF scorecard
- Support efforts by FMFBNP and partners to develop a harmonized approach to map and report activities of implementing partners as requested by the Vice President

4. Recommendations by Data Source

Each data source considered in these recommendations is unique in terms of its existing content and the stakeholders, processes, and timelines involved in planning and implementing data collection. In Section 4, NIS Task Team recommendations are summarized by data source.

Recommendations to add or modify content are categorized as "strongly recommended" or "recommended for consideration" based on their priority, feasibility, and relative costs. Key recommendations by data source include:

NDHS

Strongly recommended: Add FIES; add preventive iron supplementation for girls in late adolescence (15-19y); capture both iron-folic acid (IFA) and Multiple Micronutrient Supplements (MMS) as iron-containing supplements; add micronutrient powder supplementation for children 6-59 months.
Recommended for consideration: Add MUAC measurements for children 6-59 months; add MUAC and waist circumference for women of reproductive age (added costs for these additions are considered moderate). Also, more resources should be mobilized to improve the quality of anthropometric data collection.

MICS

Strongly recommended: Add FIES; modify questions for maternal, infant, and young child nutrition (MIYCN) counselling during pregnancy and PNC; add Vitamin A supplementation; add deworming.
Recommended for consideration: Add waist circumference for school-aged children and adolescents (cost for these additions would be high given the larger sample size); add IFA and MMS during pregnancy. They are not in the global questionnaire; added costs are relatively low given questions are available from NDHS. Also, more resources should be mobilized to improve the quality of anthropometric data collection.

NNHS

Strongly recommended: Drop weight and height if NDHS or MICS surveys were conducted in the previous two years.
Recommended for consideration: Add healthy food consumption for boys and girls in early adolescence (10-14 y); costs will be high as sampling would have to be increased to capture population groups; add household iodized salt and add HWISE scale. Added costs are moderate for both indicators.

NFCMS

Strongly recommended: Add Minimum Dietary Diversity for Women; add consumption of unhealthy foods among children 6-23 months and women of reproductive age (WRA); add waist circumference for adolescent girls and WRA (10-49y); drop WASH indicators except those required to calculate the household wealth index.

NCD STEPS Survey

Strongly recommended: Add FIES.
Recommended for consideration: Add unhealthy food consumption for men and women 18-69 years. Added costs are considered to be moderate.

NHMIS

Strongly recommended: Add MAM treatment admission and MAM management to NHMIS registers and Monthly Summary Forms; record MUAC for children 6-59 months on NHMIS Monthly Summary Form; clarify NHMIS Manual explanation for "child growing well" and vitamin A indicators.
Recommended for consideration: Add MMS during pregnancy to NHMIS. Added costs are considered moderate, and indicator development will be required. Also recommended is to identify scale-able models for integrating community-level nutrition data in the NHMIS, invest in staff training for NHMIS reporting, and address time constraints for facility-level staff to complete reporting.

MNCHW Data

Strongly recommended: Add to reporting sheets MIYCN counselling indicators, intermittent preventive treatment for malaria, and micronutrient powder supplementation. Also recommended is the integration of MNCHW data with NHMIS data

NHFS

Strongly recommended: Add and report distinct nutritionist cadre to human resources; add indicators on unexpired nutrition commodities (e.g., Vitamin A, IFA, deworming, and ready-to-use therapeutic foods, etc.).

Recommended for consideration: Add health worker training and competencies on nutrition topics and services. The cost of new indicator development may be high.

Other administrative sources:

Strongly recommended: See all NHLMIS, National Health Workforce Registry Tool, and the NHFS recommendations in section 3.

5. Taking the Recommendations Forward

The NIS Task Team recommendations should be reviewed and further prioritized as part of future efforts to develop a cross-sector National Multisector Nutrition Data Framework that includes an operational plan and data financing strategy.

The FMOH Nutrition Division and its NIS Task Team are well-positioned to lead efforts to operationalize and regularly review these recommendations. However, they will require adequate funding, technical support, and accountability mechanisms for follow-through. Strong commitment to improve data coordination is needed from all nutrition data stakeholders and should include increases in budget and expenditure.

Data use is essential for fostering data demand and improving data quality. If data are collected but cannot be easily accessed and used by all stakeholders, they are not serving their intended purpose. Government and donors should increase investments in institutional and individual capacity development related to all steps along the nutrition data value chain.

1.0 Background

1.1 What is the Purpose of These Recommendations?

Nutrition is a policy priority in Nigeria. Thus, relevant, accurate, complete, and timely information is needed to understand the nature, causes, and scale of nutrition problems to design effective policy and programmes for populations at risk of malnutrition and evaluate progress towards addressing identified priorities. Information for decision-making can come from many sources, including national and global guidance, national surveys, administrative data systems, research studies, and expert consultations, among others.

The Nutrition Division of the Federal Ministry of Health (FMOH) and key stakeholders are actively working to strengthen the national nutrition information system (NIS) within the health sector. Data collected at regular intervals from survey and administrative sources are the foundation of the NIS. It is important that, to the fullest extent possible, these data sources are adequately resourced to collect the information required by nutrition decision-makers in Nigeria's health sector.

Presently, a considerable amount of data on nutrition is collected in Nigeria from many different national sources. The country's NIS includes surveys such as the Nigeria Demographic and Health Survey (NDHS), Multiple Indicator Cluster Survey (MICS), National Nutrition and Health Survey (NNHS, also referred to as the national SMART survey), National Food Consumption and Micronutrient Survey (NFCMS), and National Health Facility Survey (NHFS). Administrative data sources include routine data from the National Health Management Information System (NHMIS) and Maternal, Newborn, and Child Health Week (MNCHW) data, and the Nigeria Governors' Forum (NGF) Nutrition Scorecard, among others. However, nutrition data collected through these sources do not necessarily provide decision-makers with all the information needed and at the necessary frequency. In addition, each of these data sources involves different stakeholders in planning and implementation. This diversity presents a challenge in terms of coordination of content, the timing of data collection, and the comparability of the data.

The purpose of these recommendations is to:

- Identify health sector priorities for nutrition data collected through national surveys and administrative data systems
- Make practical suggestions for the inclusion of priority indicators across national surveys and administrative data systems
- Present considerations for putting these recommendations into practice

We use the term *national* to refer to data sources coordinated by national-level stakeholders and cover the entire country. These data sources typically report both national and sub-national data, but the actual level of representativeness varies depending on the source.

Sub-national data sources are an essential part of Nigeria's nutrition data ecosystem, particularly for humanitarian response efforts (e.g., Northeast Nutrition Surveillance System, data on refugees and internally displaced people); however, they are not included in these recommendations. Although the recommendations do not explicitly address nutrition data needs outside of the health sector, they can inform ongoing efforts to develop a national multisector NIS for Nigeria.

The specific data sources considered in these recommendations are identified in Section 1.4.

1.2 Who is the Audience For These Recommendations?

The audience for this document includes government stakeholders involved in planning and implementing national-level nutrition data collection, partners who support data collection activities, and donors who finance data collection. Specifically, the recommendations are intended to be used by:

- stakeholders involved in NIS design and implementation, including the NIS team in the FMOH Nutrition Division and those from other ministries, divisions, and agencies (MDAs), and development partners

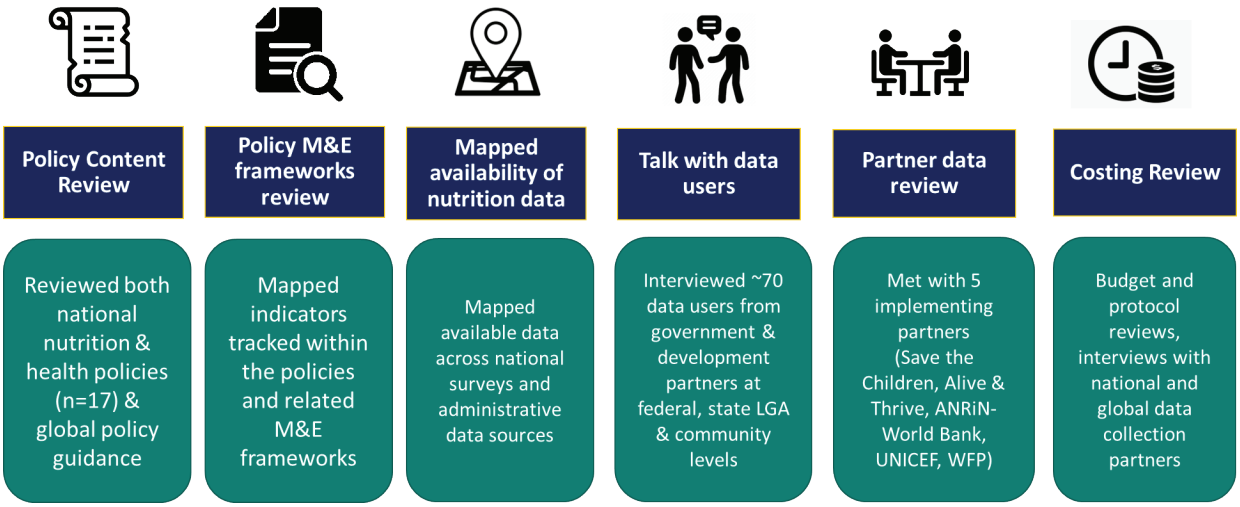
- stakeholders involved in planning data collection using survey and administrative platforms that include recommended indicators
- stakeholders involved in developing nutrition-related policy and program monitoring frameworks, so they use harmonized content and reflect shared data priorities

1.3 How Were the Recommendations Developed?

The recommendations were developed by a NIS Task Team convened and overseen by the Nutrition Division of the FMOH (Appendix 1). The NIS Task Team comprised 15 members from different MDAs, development partners, academia, and civil society. Members met five times between November 2021 and March 2022 to review findings from preparatory work, agree on priority data needs and gaps, and develop recommendations for national-level nutrition data collection, including indicators, frequency, and preferred data sources (Appendix 2). In April 2022, the full recommendations were reviewed by the Task Team and a wider group of stakeholders identified by the FMOH (Appendix 3). The final recommendations document was validated by the National Nutrition Technical Working Group and approved by the Honourable Minister of Health.

DataDENT[1], together with the University of Ibadan and the Nutrition, Agriculture and Health Initiative (NAHI), provided support throughout the process of developing the recommendations, including carrying out extensive preparatory work that informed NIS Task Team efforts. This work included identifying nutrition data priorities and data gaps relevant to the health sector through an extensive review of the nutrition policy and data landscape, interviews with nutrition stakeholders at federal, state, LGA, health facility, and community levels, and interviews to identify cost considerations associated with the collection of nutrition indicators. Figure 1 summarizes the activities carried out during this preparatory phase from November 2020 to March 2022.

Figure 1: Preparatory Work Carried Out to Support Development of Recommendations by the NIS Task Team



More details on these preparatory activities are available in the appendices. Appendix 4 describes the costing review. Appendices 5 and 6 provide the summary of the results of the policy and monitoring and evaluation (M&E) frameworks review. Appendix 7 presents the mapping of nutrition indicators across survey and administrative data sources, and Appendix 8 provides a summary of the findings from interviews and focus group discussions.

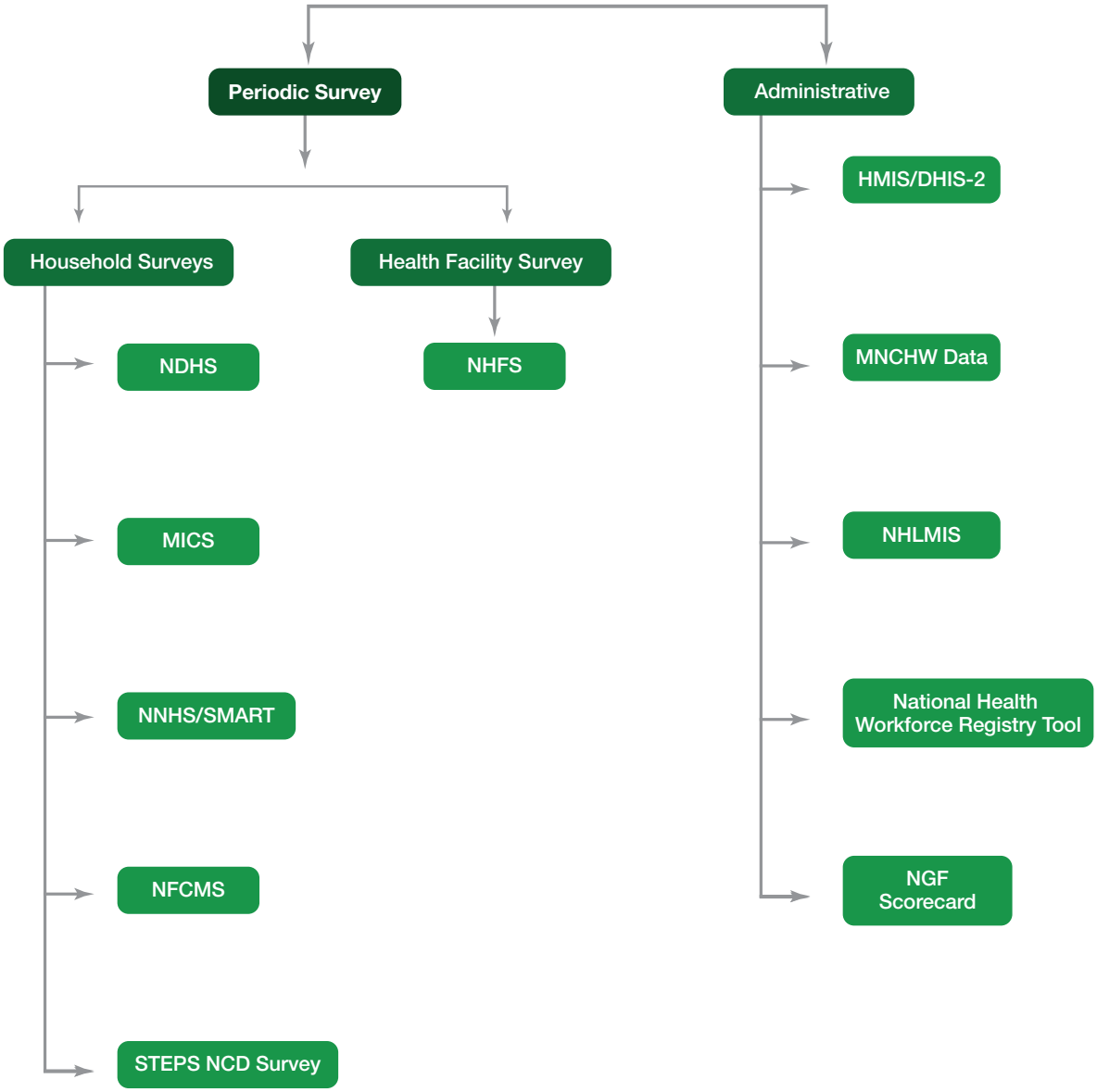
1 DataDENT is an initiative funded by the Bill & Melinda Gates Foundation that aims to transform the availability and use of nutrition data by addressing gaps in nutrition measurement and advocating for stronger nutrition data systems. DataDENT partners in Nigeria include Johns Hopkins Bloomberg School of Public Health and Results for Development (R4D).

2 The STEPS NCD Survey was reported to be in data collection phase at the time of recommendation development (April 2022). It is understood to be an adaptation of the WHO globally supported STEPS survey tool but it was not possible to fully confirm content. The global STEPS survey tool was used to identify and map; indicators in this document.

1.4 Which Data Sources are Included in the Recommendations?

Among the many national-level data sources in Nigeria, the NIS Task Team identified 11 survey and administrative data sources that include multiple nutrition indicators and engage the FMOH as a key stakeholder in planning and implementation (Figure 2). The recommendations consider two additional data sources: the Nigeria Governors Forum (NGF) Nutrition Scorecard, which provides quarterly state-level data on the enabling environment for nutrition, and the forthcoming STEPS NCD survey, which has the potential to become a periodically conducted survey in Nigeria[2].

Figure 2: Data Sources Selected for Inclusion



2.0 Overarching Recommendations

This section summarizes a set of overarching recommendations and principles developed by the NIS Task Team that underly the more specific recommendations that follow in Sections 3 and 4.

1: Invest continuously in both administrative and survey sources

Both administrative and survey data sources are needed to fully meet the decision-making needs of nutrition stakeholders in Nigeria's health sector. These different types of data sources should be considered complementary rather than competing sources of information. Each provides different but equally important information for decision-making. Table 1 provides an overview of the priority uses and limitations of each type of data as agreed by the NIS Task Team.

Table 1: Overview of Prioritized Uses of National-Level Administrative Data Systems and Surveys

Administrative systems		**Population-based periodic surveys**	
Indicators prioritized for these data sources:		Indicators prioritized for these data sources:	
Inputs & Enabling Environment	**Outputs**	**Outcomes**	**Impact**
Policies Protocols Budget allocations Infrastructure Equipment Commodities Personnel Partners	Service delivery Quality of care Trained human resources Supervision systems Supply chains	Population-based coverage of interventions, practices, behaviours and food security	Population-level nutritional status (e.g., U5 stunting, micronutrient deficiencies, obesity)
Data ideally used for: work planning; forecasting resource needs; monitoring programme implementation; budget tracking		**Data ideally used for:** assessing progress towards targets; identifying population-level nutrition problems; policy and programme design; longer-term planning and budgeting; assessing equity and identifying unreached populations	
Frequency of collection: generally reported through administrative structures on a more frequent basis (e.g., monthly, quarterly)		**Frequency of collection:** Depending on the survey, every 1-5+ years; analysis and reporting time also vary and can be significant	
Limitations: concerns about data quality and completeness; NHMIS data do not reflect individuals who do not access the health system and are not ideal for estimating population-based measures or equity		**Limitations:** cost constraints limit the representativeness of data; reduced frequency of data; concerns about validity for some indicators (e.g., the accuracy of women's recall of the number of IFA tablets during pregnancy)	

There are some exceptions to the categorizations in Table 1. For example, national periodic household surveys like NDHS and MICS are not recommended to measure coverage of child wasting treatment programmes as it is not possible to accurately identify who in the population was wasted prior to the survey (i.e., the denominator for coverage). Instead, for this indicator, we rely on administrative data and more frequent sub-national surveys in high-burden areas. As another example, health facility surveys are used to provide data on outputs such as trained providers or quality of care in the absence of high-quality administrative data.

Nutrition stakeholders in Nigeria must continue to invest sufficient resources to support high quality data collection from both administrative and survey data sources, including funding for capacity development to plan, collect, analyse, and disseminate data from these sources.

2: Only collect data on nutrition indicators as often as needed to inform decision making

It is a waste of resources to collect data more often than they are required for decision-making. Based on the review of global guidance[3,4,5] and findings from the background work, the NIS Task Team, agreed on recommended intervals for collecting different categories of nutrition indicators through household surveys and administrative data systems for the purpose of monitoring progress (Table 2).

Table 2: Recommended Interval for Collecting Nutrition Indicators for Monitoring Progress

Source type	Category	Description	Recommended interval
Household Survey	Anthropometry in women of reproductive age and children under 5[a]	U5 stunting	3 years
		U5 wasting (WHZ)	2 years
		U5 wasting (MUAC)	Annual
		U5 overweight (WHZ)	2 years
		BMI - Women of reproductive age[b]	2 years
	Anaemia[c]	Anaemia in WRA and children under 5	3 years
		Drivers of Anaemia	5 years
	Overweight and diet-related NCDs	BMI and waist circumference in the adult population	3 years
		Diet-related NCDs in adult populations	3 years
	Special populations[d]	Nutritional status of elderly	3 years
		Nutritional status of school-aged children, including adolescents	3 years
	Simple diet quality indicators	IYCF practices, MDD-W, and other diet quality scores	1 (or 2) years
	Household food environments	Household food and water insecurity	1 (or 2) years
	Micronutrient status and nutrient intakes	Micronutrient status in key populationse	5 years
		Nutrient intakes in key populations[e]	5 years
	Intervention coverage[f] (population-based)	Interventions at national and sub-national scale	1 year
		Interventions at pilot scale	Sub-national surveys only
Admin System	Service delivery (availability; # reached)	Interventions at national and sub-national scale	Monthly/Quarterly
	Readiness to implement	Human resources for nutrition	Annual
		Training and supervision	Quarter /Annual
		Quality of Care (implementation)	Annual
		Supplies	Quarter /Annual
		Equipment	Annual
	Enabling environment	Partners	Annual
		Policy status	Annual
		Infrastructure	Annual
		Budget allocations	Annual

3 Brown KH, Moore SE, Hess SY, McDonald CM, Jones K, Meadows S, Manger M, Coates J, Alayon S, Osendarp S. Strategic plan for increasing the availability and utilization of reliable data on population micronutrient status globally. The Micronutrient Forum, Washington, DC; 2020;

4 Recommendations for data collection, analysis and reporting on anthropometric indicators in children under 5 years old. Geneva: World Health Organization and the United Nations Children's Fund (UNICEF), 2019

5 Requejo, J. H., Newby, H., & Bryce, J. (2013). Measuring coverage in MNCH: challenges and opportunities in the selection of coverage indicators for global monitoring. PLoS medicine, 10(5), e1001416.

Table 2 notes:

a. Estimates of child wasting based on MUAC and WHZ are not directly comparable. The NIS Task Team recommends more frequent MUAC estimates because of the relatively low cost and use of MUAC as the entry criteria for wasting treatment programmes. However, in high-risk subnational areas, surveillance systems should be collecting MUAC data on a more frequent basis.
b. BMI in women of reproductive age can be used to assess both prevalence of thinness/low BMI and overweight and obesity. Given the absence of data on overweight and obesity in the general adult population, the NIS Task Team recommends more frequent assessments in this population.
c. Anaemia has multiple nutritional and non-nutritional causes. Indicators for specific micronutrient deficiencies, inflammation, and hemoglobinopathies are collected in micronutrient surveys and/or special studies. The interval has been matched to data on micronutrient status.
d. No nationally representative data are currently available for the nutritional status of elderly or school-age populations, and there are limited data on adolescent populations (e.g., currently limited to older adolescent girls 15-19y). The NIS Task Team has identified collecting data on these special populations as a priority.
e. Key populations in the 2021 Food Consumption and Micronutrient Survey include women of reproductive age (15-49 years), pregnant women, and children under 5. Select indicators were collected in adolescent girls 10-14 years. The NIS Task Team recommends that relevant data also be collected for other populations, including school-age children and the elderly.
f. A list of interventions categorized as national, sub-national, and a pilot is included in Appendix 9.

As a general rule, data are needed more often for indicators that are expected to change more rapidly. An example is coverage of nutrition interventions that are being scaled up or changes in infant and child feeding practices in response to a national promotion campaign. In contrast, data need to be collected less frequently for indicators such as childhood stunting, which will take longer to change.

3: Adhere to a common schedule for national-level surveys that collect nutrition data

All nutrition stakeholders in Nigeria, including MDAs, implementing partners, and donors, must agree on and adhere to a common schedule for national-level household or facility surveys that collect data on nutrition indicators. Collecting the same data in the same timeframe through different national surveys is a duplication of effort and a waste of resources; it can also generate multiple estimates for the same or similar indicators, making it difficult to interpret trends.

The NDHS and MICS are globally supported surveys that include nutrition, among other topics. These surveys have a coordinated schedule in Nigeria that is usually adhered to (e.g., NDHS every five years; MICS every four years), although unexpected events such as the COVID-19 pandemic can affect timing. Nutrition stakeholders are one of many actors involved in planning and financing these surveys and, as such, do not have a significant influence on their content or timing.

In contrast, nutrition stakeholders in Nigeria can influence the timing and content of surveys with mostly nutrition-related content such as the NNHS and NFCMS. In turn, these surveys should be planned around the less flexible timing of the NDHS and MICS. Figure 4 includes a proposed survey timeline that avoids duplication of content and generally adheres to the intervals suggested in Recommendation 2 above. This timeline should be reviewed and updated on an annual basis.

4: Consider monetary and non-monetary costs when deciding whether and how to collect nutrition indicators in national-level survey and administrative data sources

Adding a nutrition indicator to or removing an indicator from a periodic survey or administrative data source can have significant cost implications. These costs can be incurred at every stage in the data collection process, including planning, preparing tools, training, collecting data, reporting, analysis, and dissemination.

Many of these costs are monetary (e.g., contracting technical assistance, hiring, and training specialized anthropometric data collectors). However, there are also non-monetary costs (e.g., the time of the household respondent). Both monetary and non-monetary costs can affect data quality. For example, adding questions to a survey increases the cost and the length of the interview, which can lead to “survey fatigue” for the interviewer and/or respondent, which, in turn, can result in low-quality or incomplete responses.

When deciding whether to add more content to a data collection platform, cost trade-offs and their implications for data quality must be considered alongside available resources (e.g., money, time,

technical capacity). Cost considerations vary by data collection platform, the complexity of the indicator, and the protocols used for specific questions, sampling, and other measurements. For example, the cost of collecting child height or length data is higher in surveys that require the data collector to repeat the measurement two to three times, although this added cost should also result in better data quality.

Ideally, nutrition indicators will be added or removed across Nigeria's survey and administrative data sources in ways that meet decision-makers' needs (see Recommendation 2) while minimizing cost and maximizing data quality.

Other examples of cost drivers include whether a global questionnaire needs to be adapted to the country context or an indicator reflects a new topic area and requires knowledge or skills development for survey planners and/or data collectors. For example, adding a nutrition indicator that requires sampling a new population will significantly increase the costs. Nearly all household surveys considered under these recommendations (Figure 2) are primarily designed to collect data on children under five and/or women of reproductive age. Expanding surveys to include other priority populations (e.g., school-age children, adolescents, men aged 15-49 years, and the elderly) may add significant monetary costs depending on the types of indicators to be collected and will certainly add to planning and data collection time and other non-monetary costs.

Appendix 5 provides more detailed information about cost considerations that can be used to guide decisions about the inclusion of specific nutrition indicators across the different data sources.

5: Ensure that the resources required for the collection of high-quality and sub-nationally disaggregated nutrition data are available

In addition to being relevant and timely, nutrition data must also be complete and accurate. Collecting high-quality data can be challenging, especially through administrative systems and household surveys, such as the NDHS and MICS, that cover a wide range of topics and indicators. There are also specific concerns about the level of survey representativeness and quality of anthropometric data collected by national surveys. Nutrition stakeholders, including MDAs and development partners, should ensure the collection of high-quality data through the provision of adequate resources and equipment, technical support, training, and supervision. It is essential to have adequate numbers of data collectors and analysts who are equipped, trained, and supported to collect and report quality data through administrative systems and surveys. It is also important that sub-nationally disaggregated indicators are reported whenever the sample size allows. Additional data quality recommendations are included in Section 5.

6: Develop a set of core indicators with standard definitions to be used in all national surveys and administrative data collection

To ensure that data are comparable across data sources and over time, it is critical to use consistent indicator definitions and data collection methods. The nutrition sector in Nigeria would benefit from having an official set of core indicators and standard definitions to be used across data collection and reporting efforts by all stakeholders. Appendix 10 includes a list of the indicators included in these recommendations and suggested definitions that can be considered for the core set.

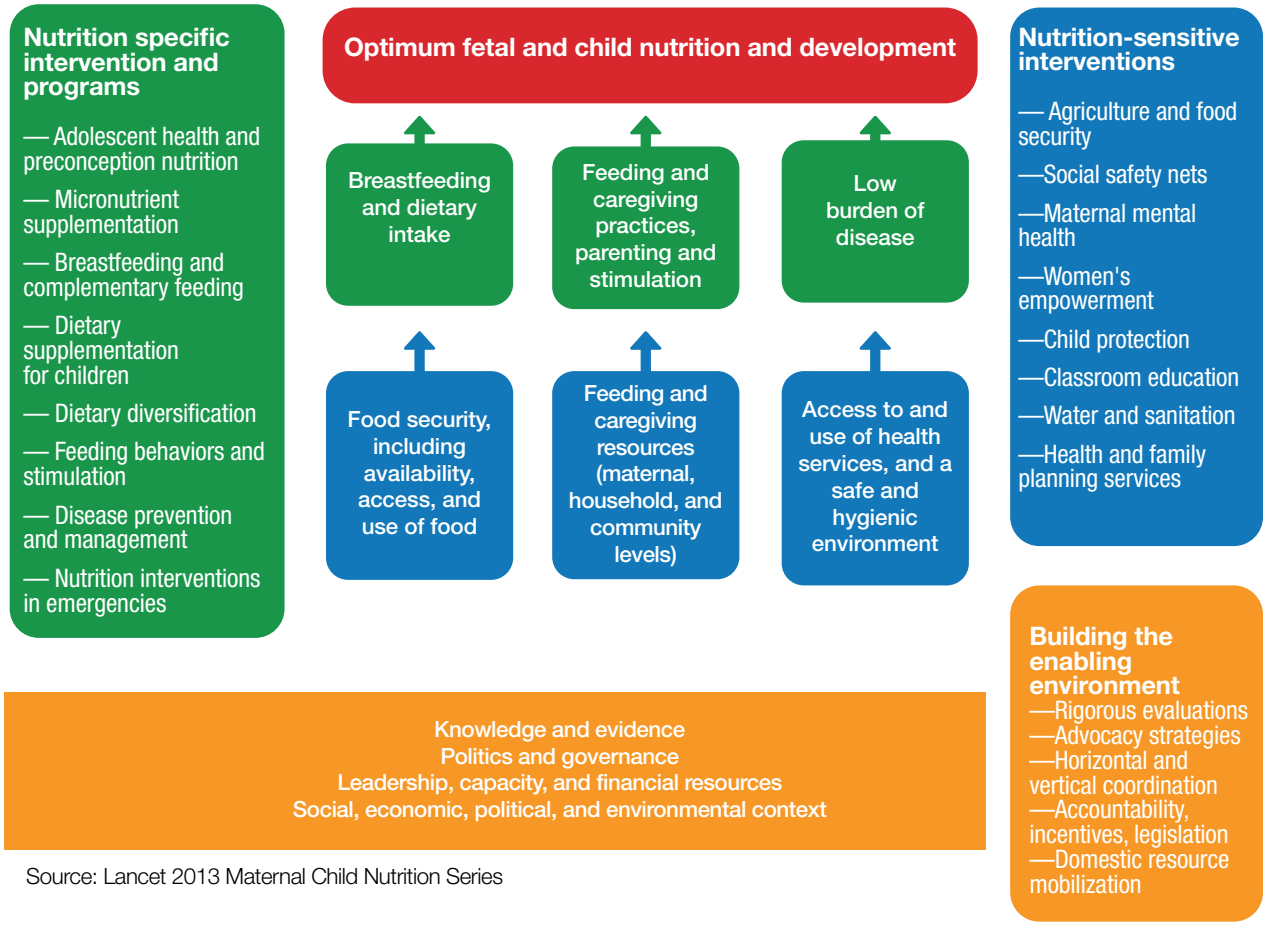
The specific recommendations in this document include the addition of several new nutrition-related indicators to data collection platforms in Nigeria. Adequate time and resources must be allocated to develop and test new indicators to ensure that they are feasible to collect and generate useful data. If there is an existing validated global indicator, it should be used, with adaptation to the Nigeria context if necessary. If no global indicator exists, a new indicator will need to be developed. New indicators should be pre-tested; this includes new household survey questions and new or modified administrative registers that will be used to collect the data, and the feasibility of data collection should be assessed across multiple sources. Ideally, any new indicator should also be validated against a gold standard before inclusion in data sources.

3.0 Recommendations by Indicator

This section includes the recommendations for the collection of nutrition indicators across data sources. The primary aim is to fill data gaps based on the priorities identified through the policy review (Appendices 5 & 6), stakeholder interviews (Appendix 8), and data landscaping (Appendix 7), as well as the overarching recommendations from the NIS Task team described in Section 2 above.

The presentation of the recommendations is structured using the UNICEF framework (Figure 3), starting with recommendations on nutritional status, followed by diet quality, intervention coverage, readiness for implementation, and the enabling environment.

Figure 3: UNICEF Malnutrition Framework



Source: Lancet 2013 Maternal Child Nutrition Series

3.1 Household Surveys

In this section, we present indicator-specific recommendations for national household surveys. Table 3 summarizes recommendations for the collection of specific nutrition indicators across five household surveys: NDHS, MICS, NNHS, NFCMS, and STEPS NCD Survey. Indicator recommendations are categorized using colour coding as follows: keep (green), add (yellow), remove (blue). The patterned shading indicates a special consideration which is explained in Table 4. Table 4 also includes a brief explanation for each indicator recommended for addition or removal and describes any special considerations for specific indicators.

Recommendations reflect the survey timeline proposed by the NIS Task Team to avoid duplication of content while mostly adhering to the recommended indicator frequency (see Section 2, Recommendation 2; Figure 4). The proposed timeline is based on the following assumptions about data collection timing.

NNHS: annual but with flexibility (e.g., do not carry out in years with NDHS or MICS; do not include weight and height in every NNHS survey; suggest including weight and height if there have not been measures in the last two years)

NHFS: has not been conducted as regularly; suggest every two years and to carry out in the same years as NNHS

MICS: every four years per NBS and UNICEF; should always include anthropometry

NDHS: every five years per National Population Commission; should always include anthropometry

STEPS NCD survey: new survey and periodicity of the collection has not been established, assumed to be every five years

NFCMS: every five years, based on global guidance for micronutrient status data collection

NHMIS: Data collection is continuous; however, tools are reviewed at the national level every three years per FMOH DPRS procedures; state-level timelines for printing and uptake of revised tools vary but historically have been longer than every three years

Figure 4: Proposed 10-year Timeline of Surveys and NHMIS Tool Review

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Survey		NNHS(a)		NNHS		NNHS	NNHS			NNHS	NNHS(a)	NNHS
			NDHS(a)					NDHS(a)				
	MICS				MICS(a)				MICS(a)			
	NFCMS*					NFCMS*					NFCMS*	
		STEPS NCD Survey					STEPS NCD Survey					STEPS NCD Survey
		NHFS		NHFS		NHFS		NHFS		NHFS		NHFS
Administrative		NHMIS Tools Review			NHMIS Tools Review			NHMIS Tools Review			NHMIS Tools Review	

Key
(a): Includes weight and height data collection among children 0-59 months
***: Includes weight and height for children 6-59 months; not comparable to DHS/MICS/NNHS estimates among 0-59 months**

Table 3: Summary of Recommendations for Nutrition Data in Household Surveys

Keep | Add | Remove | Pattern: Flag special consideration (explained in Table 4) | Not Applicable

Indicator Type[6]		Primary Population(s)	NDHS [7]	MICS[8]	NNHS	NFCMS[9]	WHO-STEPS[10]	Other Surveys
Nutritional Status								
Anthropometry	Low birth weight[11]	Births in last X years						
	Stunting (HAZ)	Child 0-59m		12		13		LSMS/GHS 6-59m
	Underweight (WAZ)	Child 0-59m		12		13		LSMS/GHS 6-59m
	Overweight (WHZ)	Child 0-59m		12		13		LSMS/GHS 6-59m
	Wasting (WHZ)	Child 0-59m		12		13		LSMS/GHS 6-59m
	MUAC	Child 6-59m						
		Female 15-49y						
	BMI-for-age Z-Score	Adolescent female 10-19y						
		Adolescent male 10-19y						
		School-age children						
	Body mass index (BMI)	Female 15-49y						
		Male 15-49y						
		Older adults 50-69y						
	Waist circumference	Adolescent female 10-14y						
		Female 15-49y						
		Adolescent male 10-14y						
		Male 15-49y						
		Older adults 50-69y						
Anaemia & micronutrient status	Anaemia (haemoglobin)[14]	Child 6-59m						MIS
		Female 15-49y						
	Micronutrient status (biomarker)	Female 15-49y						MIS
		Adolescent female 10-14y						
	Other drivers of anaemia (biomarkers)	Female 15-49y						
		Adolescent female 10-14y						

6 For specific indicators and definitions, see Appendix 7
7 Reflects indicators that have been added to DHS-8 global questionnaire and will be collected in future NDHS surveys
8 MICS 2021 survey report not yet available; recommendations based on indicators in MICS 2011 and 2017 report and the MICS 2021 protocol
9 NFCMS 2021 survey report not yet available; recommendations based on indicators in NFCMS 2021 survey protocol
10 Sampling includes adult population 18-69 years; indicators are mapped based on the STEPS global questionnaire as the Nigeria questionnaire was not available. The global questionnaire can be accessed at: https://www.who.int/teams/noncommunicable-diseases/surveillance/systems-tools/steps
11 Administrative resources preferred for this indicator. Survey responses are based on written record or recalls about perceived size.
12 MICS 2021 did not include child anthropometry
13 NFCMS sample includes children 6-59 months
14 Hemoglobin assessment methods vary by survey; may impact comparability of data

Indicator Type[6]		Primary Population(s)	NDHS [7]	MICS[8]	NNHS	NFCMS[9]	WHO-STEPS[10]	Other Surveys
Diet-related NCDs	Hypertension (blood pressure)	Adults 15-49y						
	Diabetes (blood glucose)	Female 15-49y				15		
		Male 15-49y						
	Cholesterol	Adults 15-49y						
	Salt intake	Female 15-49y						
		Male 15-49y						
Diet Quality								
Simple indicators of diet quality	Infant and Young Child Feeding (IYCF) practices (e.g. EBF, MDD)	Child 0-23m				16		
	Women's Dietary Diversity (MDD-W)	Female 15-49y						
	Other food group score	Adults 15-49y						
	Fruit and vegetable consumption	Adults 15-49y						
		Older adults 50-69y						
	Unhealthy foods	Child 6-23m						
		Adolescent females 10-14y						
		Adolescent males 10-14y						
		Females 15-49y						
		Males 15-49y						
		Older adults 50-69y						
	Biofortified foods	Children 6-59m Female 15-49y						
	Fortified food staples	Households with children 6-59m or female 15-49y						
	Iodized salt	Households						
Nutrient intakes	Energy (various indicators)	Children 6-59m Female 15-49y						
	Specific macronutrients (various indicators)	Children 6-59m Female 15-49y						
	Specific micronutrients (various indicators)	Children 6-59m Female 15-49y						
Household Food & Water Insecurity								
	Food Insecurity Experience Scale (FIES)	Household with key populations						
	Household Water Insecurity Experiences (HWISE) scale	Household with key populations						

15 NFCMS measures blood glucose in non-pregnant women of reproductive age only
16 NFCMS sample includes children 6-23 months

Indicator Type[6]		Primary Population(s)	NDHS [7]	MICS[8]	NNHS	NFCMS[9]	WHO-STEPS[10]	Other Surveys
Coverage of Nutrition & Nutrition-Relevant Interventions in the Health Sector								
Non-pregnant	Preventative iron supplementation	Non-pregnant female 15-49y						
		Adolescent females 15-19y						
Pregnancy	ANC (any, at least 4/8 visits, timing of 1st visit)	Female 15-49y with birth in last X years						
	Iron-folic acid supplementation	Female 15-49y with birth in last X years						
	Multiple micronutrient supplements (MMS)	Pregnant women 15-49y						
	Intermittent preventive treatment (IPTp) for malaria	Female 15-49y with birth in last X years						
	MIYCN counselling during pregnancy	Female 15-49y with birth in last X years						
	Monitoring women's weight gain	Female 15-49y with birth in last X years						
Postnatal care (PNC)	Breastfeeding counselling and support during PNC	Female 15-49y with birth in last X years						
Child malnutrition prevention & growth promotion	High-dose vitamin A supplementation	Children 6-59m		[17]				
	Deworming in last six months	Children 6-59m		[16]				
	Sleeping under a net/ ITN	Children 0-59m						
	Child growth monitoring	Children 0-59m						
	Wasting screening	Children 0/6-59m						
	Food supplementation for complementary feeding	Children 6-23m						
	Micronutrient powder (MNP) supplementation	Children 6-59m						
Child treatment	Zinc supplementation with ORS to treat diarrhoea	Children 0-59m						
	Management of severe wasting/ acute malnutrition (SAM)	Children 6-59m						
	Management of moderate wasting/ acute malnutrition (MAM)	Children 6-59m						
	Small quantity – Lipid nutrient supplements (SQ-LNS)	Children 6-59m						

17 MICS last reported on Vitamin A supplementation and deworming coverage in the 2011 survey

Indicator Type[6]		Primary Population(s)	NDHS [7]	MICS[8]	NNHS	NFCMS[9]	WHO-STEPS[10]	Other Surveys
Coverage of Nutrition-Relevant Interventions in Other Sectors								
Household WASH	Access to improved water source	Household/ proportion of the population			[18]			All WASH indicators listed are included in the National Outcome Routine Mapping of Water, Sanitation, and Hygiene Service Levels (WASH-NORM)
	Use of improved water source for drinking water	Household/ proportion of the population			[17]			
	Water treatment	Proportion of the population						
	Quality of drinking water	Proportion of the population						
	Place for handwashing in HH	Proportion of the population						
	Availability of soap in handwashing area	Household/ proportion of the population						
	Access to improved sanitation	Household/ proportion of the population			[17]			
	Open defecation (no facility/bush/ field)	Household/ proportion of the population			[17]			
	Disposal of faeces of children	Household with child under X[19]						
Social protection	HH received safety net assistance programme	Households						LSMS/GHS
	Type of safety net programme received (e.g., cash, food)	Households						LSMS/GHS

18 Indicator collected in NNHS 2018; uncertain if collected in NNHS 2019 as report is not publicly available.
19 Indicator definition differs across survey: NNHS reports for children <3y while other surveys report children <2y.

Table 4: Summary of Recommendations for Indicator Additions or Modifications in Household Surveys

Indicator	Comments
Nutritional Status	
U5 height and weight	• NIS Task Team recommends wasting (%WHZ<-2) every two years and stunting (%HAZ<-2) every three years. • Remove child height and weight for children under five from NNHS if anthropometry data have been collected in an NDHS or MICS within two years.
MUAC	• NIS Task Team recommends annual wasting estimates based on MUAC. • Meet recommendation by adding to NDHS & MICS.
BMI-for-age Z-score in older children and adolescents	• No national population-based data on the nutritional status of older children (5-9 years), early adolescent girls and boys (10-14 years), and late adolescent boys (15-19 years) are currently available or collected in national household surveys. • High cost for collection of anthropometric data. • If prioritized, platforms to consider include: (1) MICS as MICS-6 global questionnaire includes child module with children 5-17y as respondents assuming resources are available to expand sample, and (2) school-based surveys, which will exclude out of school children.
Waist circumference	• NIS Task Team recommends collecting more data on NCD risk factors. • Waist circumference is a measure of central adiposity and is preferred to BMI alone for NCD risk assessment. • Recommend that anytime BMI is collected, waist circumference is also collected for adolescent girls, boys, and adult populations. • Add indicator to NDHS for WRA. • Explore adding indicator for adolescent boys and girls to MICS, as the MICS-6 global questionnaire includes a child module with children 5-17y.
Diet-related NCDs in adult populations	• Limited national population-based data on diet-related NCDs are currently available. NIS Task Team recommends data collection for ~3 years. The NFCMS 2021 collected select indicators for non-pregnant WRA. • The first national WHO STEPS Survey is in the field in 2022 and, if continuously implemented every five years, could partially contribute toward the NIS Task Team frequency demand for this indicator (See Section 2, Table2).

Indicator	Comments
Diet Quality	
Simple diet quality indicators (general)	• Recommended by NIS Task Team every 1-2 years. • NDHS includes MDD-W; recommend adding the same indicator and questions to NNHS. • Consider adopting the country-adapted diet quality questionnaire (DQQ)[20] for the collection of simple diet quality indicators across NDHS, MICS, and NNHS. NFCMS uses more detailed quantitative 24-hour dietary recall methods to produce simple indicators.
Unhealthy food consumption in all population groups	• Recommended by NIS Task Team every 1-2 years. • Recommended for all population groups, including adult men. • DHS-8 includes unhealthy diet indicators for children 6-23 months of age and WRA; recommend adding the same indicator and questions to NNHS. • Add indicators to NFCMS. • Explore adding unhealthy diet indicators for males and females in early adolescence to NNHS to capture this population group. • WHO STEPS survey collects this indicator for adult men and women 18-69y but consider adapting DHS-8 indicators as questions are more comprehensive and can allow for comparability.
Consumption of fortified foods vehicles and biofortified crops	• Food fortification is a policy priority in Nigeria. • Adding the indicators and questions used in the NFCMS to the NNHS will provide estimates every 2-3 years for household-level consumption of fortified food vehicles and consumption of biofortified crops by children 6-23m and WRA. • Need to consult with micronutrient data stakeholders about the relative priority of information and possible alternative data collection platforms.
Household iodized salt	• NIS Task Team recommends annual estimates of nutrition intervention coverage. • Consider adding to NNHS. • NDHS and MICS often use rapid test kits to assess the presence of any iodine in salt; most surveys do not report on the level of fortification.
Household Food & Water Insecurity	
Household food insecurity	• NIS Task Team recommends collecting every 1-2 years to monitor trends in household food insecurity and to allow for the presentation of other nutrition indicators by food insecurity status. • The Sustainable Development Goal (SDG) indicator is based on FIES. • DHS-8 has an optional module for FIES. Nigerian stakeholders should advocate for inclusion in upcoming NDHS surveys. • Add FIES to the MICS and NNHS surveys,
Household Water Insecurity Experiences scale	• NIS Task Team recommendation for every 2-3 years • New global indicator with globally validated questionnaire available. • Add to NNHS.

20 https://www.globaldietquality.org/dqq

Indicator	Comments
Coverage of Nutrition & Nutrition-Relevant Interventions in the Health Sector	
Preventative iron supplementation among non-pregnant WRA and adolescents	• NIS Task Team recommends annual estimates of nutrition intervention coverage if at the sub-national scale. • Add NFCMS indicator and questions to NDHS, MICS, and NNHS. • In some pilot contexts, intervention is being delivered to adolescent boys. Revisit the status of scale-up annually to decide whether and how to include adolescent boys in future surveys.
Antenatal care coverage	• Add the updated indicator of "at least eight visits" to survey reports to reflect changes in ANC protocols from Focused Antenatal Care (e.g., at least four visits) to the current recommendation. • Retain "at least four visits" for trend analysis and global comparability. • Does not require a change to questionnaires.
Iron-folic acid supplementation	• NIS Task Team recommends annual estimates of nutrition intervention coverage. • Add indicator to MICS.
Multiple Micronutrient Supplement (MMS) during pregnancy	• MMS is currently at pilot scale through public facilities; however, reviewers recommended that it be added to household surveys. MMS is available in pharmacies and private facilities and is expected to be scaled in the public system in the near future • There is no global standard indicator specific to MMS. If the priority is to assess the coverage of IFA compared to MMS rather than "any iron-containing supplement," it will be important to validate whether respondents can accurately differentiate between IFA and MMS (see Section 2, Recommendation 6).
Coverage of Nutrition & Nutrition-Relevant Interventions in the Health Sector	
MIYCN counselling during pregnancy & postnatal care (PNC)	• NIS Task Team recommends annual estimates of nutrition intervention coverage. • Add DHS-8 indicator and questions on breastfeeding counselling during pregnancy to MICS and NNHS. • Add DHS-8 indicator and questions on breastfeeding counselling during PNC to NNHS. • Update indicator definition reported for breastfeeding counselling during PNC reported in MICS survey report to match NDHS.
Other child malnutrition prevention interventions	• NIS Task Team recommends annual estimates of nutrition intervention coverage. • Add DHS-8 indicator and questions on vitamin A supplementation and deworming to the MICS. • Add DHS-8 indicator and questions on the coverage of growth monitoring and wasting screening to MICS and NNHS.
Micronutrient powder (MNP) supplementation	• NIS Task Team recommends annual estimates of nutrition intervention coverage for interventions included in national policies that are currently at the sub-national scale. • Add indicator on the coverage of MNP to the MICS and NNHS; use questions available in DHS-8. • DHS-8 has this indicator; consider adopting question and indicator from there.

Indicator	Comments
Coverage of Nutrition & Nutrition-Relevant Interventions in the Health Sector	
Treatment of SAM and management of MAM	• Estimates of coverage of SAM treatment and MAM management are not recommended in national population-based household surveys as it is not possible to accurately identify children who required treatment prior to the survey. Also, in most areas, rates of severe acute malnutrition are relatively low and not accurately captured in standard household surveys. • Data related to these interventions should be collected using administrative sources and subnational surveillance systems in high burden areas.
Small quantity lipid-based nutrient supplement (SQ-LNS)	• NIS Task Team recommends annual estimates of nutrition intervention coverage for interventions included in national policies that are currently at the sub-national scale. • Per FMOH Nutrition Division, SQ-LNS will be rapidly scaled up soon. • There is no standard global indicator for this intervention; it will require new indicator development (see Section 2, Recommendation 6).
WASH indicators	• Data on nutrition-sensitive interventions were identified as a gap in policy review and stakeholder interviews. • NIS Task Team recommends annual estimates of nutrition intervention coverage for interventions included in national policies that are currently at the national or sub-national scale. • The full set of JMP WASH indicators is being collected annually through the WASH NORM survey and also every four years in the MICS. • NIS Task Team recommends retaining a sub-set of the JMP WASH indicators for the NNHS and NFCMS surveys, including those required to develop the Household Wealth Index. • Further discussions are needed to confirm the subset of WASH indicators for inclusion.
Social protection programmes	• Data on social protection interventions were identified as a gap in policy review and stakeholder interviews. Food or cash transfers can impact child nutrition status when combined with other nutrition interventions. • The NIS Task Team recommends annual estimates of nutrition intervention coverage for interventions included in national policies that are currently at national or sub-national scale. • Further investigation and discussion are needed to identify whether social protection programmes in Nigeria that reach the sub-national scale are providing food or cash transfers to households with priority populations for nutrition. (e.g., pregnancy, child under 5). If so, consider adding indicator and question. • Add social protection coverage indicator to MICS; MICS-6 global questionnaires include a social safety net module that can be adopted in Nigeria. If used, it will be important to include programmes that reach key populations for nutrition. • Add questions about food or cash transfer to NNHS.

3.2 Administrative Data

In this section, we present indicator-specific recommendations for nutrition data collected through administrative systems. The data sources considered include the NHMIS (i.e., facility registers and NHMIS monthly summary forms) and MNCH Week data. We also include indicators related to service provision and readiness from the Nigeria Health Logistics Management Information System (NHLMIS), the National Health Workforce Registry Tool, the NHFS, and the enabling environment from the Nigeria Governors Forum (NGF) Nutrition Scorecard.

At present, data on community-level service delivery, for example outreach activities during MNCHW or MIYCN counselling by CHW, are not well integrated into the NHMIS system. With the support of development partners, some states have successfully linked community-level activity data with facility data; however, this is not the case across all states. The lack of consistently reported data on community-level activities is a priority gap for nutrition stakeholders in Nigeria. See Section 4.6 for additional discussion of community-level data.

3.2.1 NHMIS, DHIS-2, and MNCHW

By design, the NHMIS collects information on health service delivery for all public health facilities and some private facilities across states and then compiles and reports these data up through administrative levels via the DHIS-2. MNCHWs are biannual events involving outreach and fixed sites that are facilitated by the National Primary Health Care Development Agency (NPHCDA) and implemented by sub-national health sector stakeholders. MNCHWs deliver a range of preventative health services, including nutrition interventions. MNCHW data are tallied in site-specific reporting forms, which, at present, are not consistently integrated into NHMIS by health facilities. Other community outreach strategies are also used by NPHCDA and State Primary Health Care Boards or Development Agencies to deliver nutrition services (e.g., integration of nutrition services into immunization platforms, malaria elimination interventions, and recently at COVID-19 mass vaccination sites). The data collection and reporting streams for these types of outreach activities are not clearly defined.

Table 5 provides color-coded recommendations as follows: keep (green), add (yellow), remove (blue). The patterned shading indicates a special consideration. Table 6 includes a brief explanation for each indicator recommended for addition or removal and explains any special considerations.

Table 5: Summary of Recommendations for NHMIS/DHIS-2 and MNCHW Data

Keep | Add | Remove | Pattern: Flag special consideration (explained in Table 6) | Not Applicable

Indicator Type		Primary Population	Facility Registers[21]	NHMIS Monthly Summary Forms/ DHIS2	MNCH Week[22]
Nutritional Status					
Anthropometry	Low birth weight	Live births	Labour & Delivery		
	Preterm birth	Live births	Labour & Delivery		
	Child height	Child 0-59m	NGMP		
	Child weight	Child 0-59m	NGMP		
	Child "growing well" (weight for age curve)	Child 0-59m	NGMP		
	MUAC screening result (green, yellow, red)	Child 6-59m	NGMP		
	BMI category	Individuals aged 12y and older presenting at outpatient services (male/female)	Outpatient		
Anaemia & micronutrient status	Severe anaemia	Pregnant women presenting at ANC	ANC		
	Malaria testing and cases	Pregnant women	ANC		
Diet-related NCDs	Hypertension (blood pressure) new cases	Individuals aged 12y and older presenting at outpatient services (male/female)	Outpatient		
	Diabetes (blood glucose) new cases	Individuals aged 12y and older presenting at outpatient services (male/female)	Outpatient		
Diet Quality					
Infant & young child feeding	Exclusive breastfeeding	Child 0-6m	NGMP		
	Early initiation of breastfeeding	Newborns	Labour & Delivery		

21 Nutrition-relevant data come from a range of health facility registers, including labor & delivery, nutrition growth monitoring and promotion, ANC, and others.
22 The MNCHW campaign guidelines were being updated at the time of recommendations (April 2022). Refer to new guidelines for latest data availability.

Indicator Type		Primary Population	Facility Registers[21]	NHMIS Monthly Summary Forms/ DHIS2	MNCH Week[22]
Coverage of Nutrition & Nutrition-Relevant Interventions in the Health Sector					
Pregnancy	ANC visits	Pregnant females (10y and older)	ANC		
	Received LLIN	Pregnant females (10y and older)	ANC		
	Iron folic acid (IFA)	Pregnant females (10y and older)	ANC		
	Multiple micronutrient supplements (MMS)	Pregnant females (10y and older)			
	MIYCN counselling during ANC/ pregnancy	Pregnant females (10y and older)	ANC		
	IPTp for malaria	Pregnant females (10y and older)	ANC		
Delivery	Delivered by a skilled attendant	Live births	Labour & Delivery		
	Delayed cord clamping	Live births (male/ female)	Labour & Delivery		
Postnatal Care	Breastfeeding counselling and support during PNC	Women who delivered baby at a health facility	PNC		
Child malnutrition prevention & growth promotion	Immunization	Children < 1y	Vaccine		
	High-dose vitamin A supplementation	Children 6-59m	Immunization, NGMP		
	Deworming in last six months	Children 6-59m	NGMP		
	Child received LLIN	Children 0-59m	Immunization		
	Child growth monitoring	Children 0-59m	NGMP		
	Counselling on infant and young child feeding	Children 0-59m	NGMP		
	Micronutrient powder (MNP) supplementation	Children 6-59m	NGMP		
	SQ-LNS	Children 6-23m			

Indicator Type		Primary Population	Facility Registers[21]	NHMIS Monthly Summary Forms/ DHIS2	MNCH Week[22]
Coverage of Nutrition & Nutrition-Relevant Interventions in the Health Sector					
Childhood treatment	Children presenting with diarrhoea	Children 0-59m	Outpatient		
	ORS & zinc for diarrhoea	Children 0-59m	Outpatient		
	SAM: Admitted for treatment in health facility (NGMP register)	Children 6-59m			
	Management of severe acute malnutrition (e.g., recovered, defaulted, died)	Children 6-59m	NGMP		
	MAM treatment: Admitted for treatment	Children 6-59m			
	MAM treatment outcomes (e.g., recovered, defaulted, died)	Children 6-59m			

Table 6: Summary of Recommendations for Indicator Additions or Modifications in NHMIS/DHIS-2 and MNCHW Data

Indicator	Comments
Nutritional Status	
Child growing well	• Indicator on child growth measurement outcome is currently recorded in facility NGMP registers and NHMIS monthly summary form. • There are reports of a lack of clarity in the definition; recommend reviewing the NHMIS manual. • If indicator is retained, consider revising indicator name in the HMIS register and summary form to reflect the "growing well" criteria more specifically.
Severe acute malnutrition: Admitted	• Current indicator does not distinguish between children admitted without complications to outpatient care (OTP) and those admitted with complications to in-patient care (IPC). • Recommend creating two separate indicators in both facility registers and NHMIS monthly summary form for the number of children admitted for SAM treatment in (a) OTP and (b) IPC.
MUAC Screening result	• Child MUAC measurements are currently recorded in facility GMP registers. • Add the total number screened and number falling into MUAC categories to NHMIS monthly summary form. • Consider how to capture community-level screening data in NHMIS/ DHIS-2 and MNCHW data.
Coverage of Nutrition & Nutrition-Relevant Interventions in the Health Sector	
Multiple micronutrient supplements (MMS) during pregnancy	• MMS is currently at pilot scale through public facilities; however, reviewers recommended that it be added to NHMIS registers and NHMIS monthly summary form. • If the aim is to compare IFA and MMS, then it will require a piloting approach to integrate separate indicators for IFA and MMS into the current register and summary forms. It will also require the training of staff to record data and compile for reporting.
MIYCN counselling during pregnancy	• Messages on maternal, infant, and young child are shared during MNCHW activities. It is not clear whether one-on-one counselling or group-based education is used. • If one-on-one counselling, recommend examining the feasibility of capturing delivery of this service in MNCHW data tally sheets and reporting.
Intermittent preventive treatment	• IPTp is provided for pregnant women during MNCHW activities. • Recommend capturing delivery of this service in MNCHW data tally sheets.
Breastfeeding counselling & support during PNC	• Data are collected in health facility registers; recommend adding to the NHMIS monthly summary form.

Indicator	Comments
Coverage of Nutrition & Nutrition-Relevant Interventions in the Health Sector	
Child Vitamin A supplementation	• Two indicators on Vitamin A supplementation are defined in facility registers: Vitamin A children 6-23m given during immunization and Vitamin A children 6-59m given during NGMP (both disaggregate 6-11 and 12-59 months), but only one is reported on the NHMIS monthly summary form. • Recommend clarifying in the NHMIS manual whether and how to report combined values on the NHMIS monthly summary form.
Micronutrient powder supplementation	• Update definition for MNP indicator from 6-23 months to include children 6-59 months to reflect the 2021 revision of micronutrient deficiencies control guidelines. • Recommend capturing MNP indicator in MNCHW data tally sheets.
SQ-LNS	• NIS Task Team recommends the inclusion of nutrition interventions currently at the sub-national scale in facility registers and NHMIS monthly summary forms. • Per FMOH Nutrition Division, SQ-LNS will be rapidly scaled up to the sub-national scale • There is no standard data element for this intervention; it will require indicator development and addition to the register and monthly summary form.
MAM management	• Currently, facility registers and NHMIS monthly summary forms only include SAM treatment. Recommend adding indicators for MAM admissions and treatment outcomes. • WFP can provide indicator and register examples from their programme data.

3.2.2 Readiness to Implement Nutrition Services

Nutrition programme implementers, particularly at the state and LGA levels, need data on readiness to provide nutrition services. These data inform stakeholders of the availability of inputs needed to provide services. Information on readiness includes data on types of staff deployed, trained, and supervised for delivering nutrition services, availability of equipment, supply chains for nutrition commodities, the functionality of supply chains and information systems, and overall quality of care.

There are health sector administrative data sources that include information related to service readiness, including the NHLMIS and the National Health Workforce Registry Tool, as well as various reports on supervision, training, etc. Nutrition stakeholders also report relying on readiness data from the National Health Facility Survey (NFHS).

Several development partners that contributed to the partner data review (see Figure 2), including Alive & Thrive and Save the Children, collect program data on service readiness (e.g., nutrition training provided to health workers and volunteers, human resources supporting nutrition programmes, nutrition commodity supply chain). These and other development partner initiatives (e.g., Health Work Force project, USAID Integrated Health Program) can provide examples of indicators and data collection methods to inform updates to national systems.

Table 7 provides color-coded recommendations on indicators related to readiness for implementation, including the availability of human resources, training of health workers, and availability of commodities and equipment. Table 8 provides the summary of the recommendations for data on readiness by indicator type.

Table 7: Summary of Recommendations on Readiness to Implement Data

Keep | Add | Remove | Pattern: Flag special consideration (explained in Table 8) | Not Applicable

Indicator Type	National Health Facility Survey[23]	Nigeria Health Logistics MIS	National Health Workforce Registry Tool
Human resources			
Availability of skilled birth attendants			
Availability of nutrition professionals			
Material & equipment			
Health facilities with a full set of basic medical equipment (includes functional weight scale and blood pressure apparatus)			
Service provision			
Public health facilities that provide MNCHW services			
Public facilities that distribute Vitamin A during MNCHW			
Public facilities that provide other nutrition services during MNCHW (e.g., MIYCN counselling, MNP supplementation, IPTp)			
Public health facilities that provide ANC services			
Facilities that provide an assessment of anaemia during ANC services			
Facilities that provide other specific nutrition services (e.g., IFA supplementation, MIYCN counselling, routine vitamin A supplementation, nutrition corners, treatment of severe acute malnutrition, treatment of moderate acute malnutrition)			
Quality of care: Training & supervision			
Health workers trained on integrated management of childhood illnesses in the last two years (includes zinc/ORS for diarrhoea)			
Health workers with training on priority nutrition services (e.g., acute malnutrition, MIYCN, micronutrient deficiencies)			
Quality of care: Competencies			
Health worker knowledge related to nutrition (e.g., management of acute malnutrition, MIYCN counselling, micronutrient deficiencies)			

23 The report from the 2019 National Health Facility Survey has not yet been published; indicators reflect indicators reported in the 2016 survey.

Indicator Type	National Health Facility Survey[23]	Nigeria Health Logistics MIS	National Health Workforce Registry Tool
Adherence to guidelines for nutrition services (e.g., management of acute malnutrition, MIYCN counselling, treating micronutrient deficiencies)			
Documentation of care provided: ANC services (includes assessment anaemia, IPTp)			
Commodities			
Average proportion of essential drugs available in health facilities (includes IFA, ORS+ zinc, Vitamin A)	[24]		
Nutrition commodities in health facilities (e.g., RUTF, MNPs, Albendazole, MMS, etc)			
Proportion of health facilities offering nutrition services that had stock-outs of essential nutrition commodities for mothers			
Proportion of health facilities offering nutrition services that had stock-outs of essential nutrition commodities for children			
Proportion of health facilities offering nutrition services that reported expired stocks			

24 Information collected but needs to be reported out individually for each essential drug/nutrition commodity

Table 8: Summary of Recommendations for Indicator Additions or Modifications Related to Readiness to Implement

Indicator	Comment
Human Resources	
Availability of nutritionists	• The FMOH-DPRS has updated human resources for health with all cadres by facility in the National Health Workforce Registry Tool; however, nutritionist roles are included under "other" categorization for reporting purposes. • Ensure that nutritionists are added as distinct providers in the list of FMOH cadres. • Advocate for the inclusion of nutritionists as a cadre of human resources in the National Health Facility Survey.
	• Indicator requires the development and definition of a nutrition professional be harmonized with the global indicator endorsed by the World Health Assembly and included in the West African Health Organization data observatory: *"The focus of the nutrition professional indicator is on individuals trained to pursue a nutrition professional career, described in most countries as dieticians or nutritionists (including nutrition scientists, nutritional epidemiologists and public health nutritionists)."* [25]
Material and Equipment	
Availability of equipment	• Add indicator to NHLMIS to capture the key equipment needed to provide nutrition services. According to NSPAN II, these should include a weighing scale, MUAC tape, length board, and blood pressure apparatus. • Indicators exist in NHFS.
Service Provision	
Nutrition services provided during MNCHW	• Add indicators for other nutrition services (other than Vitamin A) provided during MNCHW to the NHFS based on MNCHW protocol (e.g., MIYCN counselling, IFA, IPTp). • Will require indicator and question development. Need to define specific services to be included.
Health facilities providing key nutrition services	• Add indicators on health facilities that provide key nutrition services to the NHFS (e.g., IFA supplementation, MIYCN counselling, routine vitamin A supplementation, treatment of severe acute malnutrition, treatment of moderate acute malnutrition). • Will require indicator and question development. Need to define specific services to be included.

25 WHO Nutrition professionals density indicator: https://www.who.int/data/nutrition/nlis/info/nutrition-professionals-density; Global Nutrition Monitoring Framework: operational guidance for tracking progress in meeting targets for 2025. Geneva: World Health Organization; 2017. https://www.who.int/publications/i/item/9789241513609

Indicator	Comment
Quality of Care: Training and Supervision	
Health workers with training on priority nutrition services	• NHFS collects data on the training of health workers in specific topics. Advocate for the inclusion of questions and indicators on health workers training on priority nutrition services (e.g., treatment of acute malnutrition, MIYCN counselling) • Will require indicator and question development. Need to define specific topics to be included • Recommending engaging implementing partners, such as Save the Children and Alive & Thrive, that currently explicitly collect programme data on health worker training in nutrition.
Quality of Care: Competencies	
Health worker knowledge related to nutrition	• Most frontline workers providing nutrition services are not formally trained nutritionists but may have received trainings to work in nutrition. • NHFS includes questions about health workers' knowledge related to the services they provide. • Recommended adding an indicator specific to health workers' knowledge of nutrition services (e.g., treatment of acute malnutrition, MIYCN counselling). • Will require indicator and question development. Need to identify knowledge areas for inclusion.
Adherence to guidelines for nutrition services	• The NHFS currently has questions on health workers' adherence to guidelines using vignettes on ANC and child health services • Include a vignette that assesses adherence to guidelines for the provision of priority nutrition services (e.g., management of acute malnutrition, MIYCN counselling) • Will require indicator, vignette, and question development. Need to identify which services to assess and what specific actions to observe.
Commodities	
Essential nutrition commodities in health facilities	• NHFS reports on the supply of drugs available in a health facility. Recommend adding on essential commodities in the report for commodities such as Vitamin A, Zinc, IFA, RUTF, MNPs, Albendazole, and MMS. • Add indicators that reflect stockout and expired commodities to NHFS and NHLMIS
	• Identify the processes and resources needed to add nutrition commodities to the NHLMIS. The Nutrition Division has been engaged in initial discussions. • Work with MDAs and development partners, including UNICEF, to identify supply and reporting chains for specific commodities (e.g., Vitamin A, RUTF, MNPs,) in order to identify specific indicators for NHLMIS, including those that reflect stock outs and expired commodities.

3.3 Enabling Environment

The enabling environment consists of the institutional, governance, financial resources, and social factors that support the implementation of nutrition policies and programs. Currently, national data on the enabling environment for nutrition are primarily available through the NGF Nutrition Scorecard, which collects, compiles, and reports quarterly data for all states and the Federal Capital Territory. Table 9 provides color-coded recommendations on indicators related to the enabling environment, and Table 10 provides additional explanations.

Table 9: Summary of Recommendations for Enabling Environment Data

Indicator type		NGF Nutrition Scorecard	Other – To be determined[26]
Governance	Functionality of state committees on food and nutrition (SCFN)		
	Functional nutrition units in all MDAs		
Policy	Multisectoral nutrition plan developed		
	Annual costed SCFN Workplan developed		
Resources	Nutrition budget availability		
Social and environmental context	Six months maternity leave with full pay for civil servants		
	Availability of functional government-run crèche		
	Creche has space for child feeding		
Implementing partners	Location, interventions, and level of investment of implementing partners in nutrition		

26 The Vice President's Office has advocated for a multisector NIS dashboard that will consist of data on the number of partners intervening in nutrition, where they intervene, and the activities they implement.

Table 10: Summary of Recommendations for Indicator Additions or Modifications Related to the Enabling Environment

Indicator	Comment
Enabling Environment	
Promote visibility and use of the NGF scorecard indicators	• The NGF scorecard was launched in 2021 and is a unique source of information on enabling environments for nutrition. • Recommend sensitizing health sector nutrition stakeholders about the availability of these data and encourage their use in policy and M&E frameworks.
Nutrition budget tracking	• Data for the budget indicator have not been available in the NGF Scorecard to date due to implementation challenges (e.g., lack of nutrition lines in budgets). • NGF is continuing to work with MDAs, including FMFBNP, and partners, including CS-SUNN, DataDENT, and UNICEF, to operationalize this indicator.
Information about implementing partners	• Vice President has requested data on the geographic presence and activities of partners supporting nutrition implementation across sectors. This information will also be useful to health sector nutrition stakeholders. • Recommendation is to fully support efforts by FMFBNP and partners to develop harmonized methods and systems to support the regular collection and reporting of this information.

4.0 Recommendations by Data Source

Each data source considered in these recommendations is unique in terms of its existing content and the stakeholders, processes, and timelines involved in planning and implementing data collection. This section summarizes recommendations specific to each data source, including additions or modifications to indicators and questionnaire content as well as other source-relevant considerations.

All recommendations presented in this document reflect priorities identified by nutrition stakeholders in the health sector (i.e., identified in the preparatory work or by reviewers) and the NIS Task Team. We further categorize the source-specific recommendations as either "strongly recommended" or "recommended for consideration." Strongly recommended changes are considered more feasible and, with reasonable cost, relative to the added value of the data.

4.1 NDHS

The Demographic and Health Surveys (DHS) Programme is a global household survey programme that collects and reports nationally representative data on multiple topics, including demographics, women's empowerment, nutritional status, diet quality, HIV, and coverage of RMNCH and nutrition interventions. In Nigeria, the survey is conducted at 5-year intervals, most recently in 2018. In 2019, the global DHS Programme released an updated core questionnaire version 8 (DHS-8)[27] that will be implemented globally between 2018-2023. The DHS-8 includes significant updates to nutrition content and will help address data gaps in Nigeria.

Table 11: Summary of Indicator Recommendations for NDHS

Category	Indicator	Explanation
Strongly Recommended		
Household food & water insecurity	Food Insecurity Experience Scale (FIES) module	• Advocate early on during the NDHS planning process for the inclusion of the optional DHS module on food security (FIES). • FIES was used in the NFCMS 2021 and is used by the Gallup poll for SDG monitoring. Questionnaires field-tested in Nigeria are available. • Costs may include further translation and testing, training of enumerators, and longer time for the interview, analysis, and reporting of the indicator.
Diet Quality	IYCF Indicators, MDD-W, unhealthy foods	• Ensure harmonization of methods for asking questions across household survey programmes (e.g., list vs. open recall). • Consider adoption of the country-adapted diet quality questionnaire (DQQ) used by Gallup World Poll, which uses sentinel foods for each food group.
Coverage of Nutrition & Nutrition-relevant Interventions in the Health Sector	ANC 8+ visits	• Calculate and report the indicator for at least 8 ANC visits during pregnancy. • Added costs are very low and limited to the analysis phase.
	Preventative iron supplementation for late adolescence (girls 15-19y)	• Add question to the women's questionnaire about the receipt of iron-containing supplements for all non-pregnant girls aged 15-19y. • See indicator and question used in NFCMS 2021. • Added costs should be low given the similarity to pre-existing questions about IFA supplementation during pregnancy.

27 DHS-8 Questionnaires: https://dhsprogram.com/publications/publication-dhsq8-dhs-questionnaires-and-manuals.cfm

Category	Indicator	Explanation
Strongly Recommended		
	Iron folic acid (IFA)/Multiple micronutrient supplements (MMS)	• Consider changing the question on iron supplementation to capture the different iron-containing supplements available in Nigeria, including IFA and MMS. • There is no global standard indicator specific to MMS. It will be important to validate whether respondents can accurately differentiate between IFA and MMS if this is preferred over "any iron-containing supplement" (see Section 2, Recommendation 6).
	Micronutrient powder/Iron supplementation (6-59 months)	• Add question to the children's questionnaire about the receipt of MNP. • DHS-8 includes a question on MNP; also, review the indicator and question used in NFCMS 2021. • Change age group for the indicator from 6-23 months to 6-59 months to reflect updated MNDC guidelines.
Recommended for Consideration		
Nutritional status	MUAC for children 6-59 months	• NIS Task team recommends annual estimates of wasting based on MUAC in children. No recommendation was made by Task Team for the frequency of MUAC in WRA. • Added costs are moderate, given that anthropometric measurements are already being taken in this population. MUAC is relatively quick to collect. However, does require additional training and implementation time. • NDHS is already content-heavy and has a high bar for additions. Therefore, how the data will be used by the health sector needs to be fully considered before proposing this addition.
	MUAC for WRA	
	Waist circumference for women of reproductive age (15-49y)	• NIS Task Team recommends collecting more data on NCD risk factors. WRA are a sentinel group for assessing overall population-level changes in overweight and obesity. Waist circumference is a measure of central adiposity and is preferred to BMI alone for NCD risk assessment. • Added costs are moderate, given anthropometric measurements are already being taken in this population. However, it will require additional training and implementation time. • NDHS is already content-heavy and has a high bar for adding more. Therefore, how data will be used and what other routine data platforms may be available need to be fully considered.

Category	Indicator	Explanation
Recommended for Consideration		
Coverage of Nutrition & Nutrition-relevant Interventions in the Health Sector	Food supplementation for complementary feeding	• NIS Task team recommends annual estimates of intervention coverage. • Added costs are moderate. No global indicator exists. Would need to develop and test indicator and questions prior to implementation. • NDHS is already content-heavy and has a high bar for additions. Therefore, how the data will be used by the health sector needs to be fully considered before proposing this addition.

Other recommendations:

- Quality issues have been noted for anthropometric data included in NDHS and MICS in Nigeria. We recommend increasing the financial resources available to support high-quality anthropometric data collection. Nutrition stakeholders will be important advocates in securing financing for additional costs associated with improving data quality (e.g., staff, training, rigorous standardization, field supervision). Cost savings from removing child weight and height from the majority of NNHS can potentially be reallocated to NDHS and MICS.
- Assess the cost of adding nutrition indicators for additional populations to the survey, including girls in early adolescence (10-14y) and adult men.
- Talk to DHS Programme representatives about examples of countries that include anthropometry and NCD risk factors in adult men (e.g., South Africa) and compare to the cost of collecting these data through other platforms (e.g., STEPS survey).

4.2 MICS

The Multiple Indicator Cluster Survey is a global household survey program with core questionnaire modules that can be adapted to country context. The MICS collects and disseminates data on the well-being of primarily children and women and reflects UNICEF priority areas, including health, education, and child protection. Similar to the DHS, the global questionnaire is periodically reviewed and updated; as of early 2022, the MICS questionnaire version 6[28] remains in use. Efforts have been made at the global level to harmonize common indicators between the DHS and MICS, but variations in definitions and reporting do persist (e.g., MICS-6 does not include questions on maternal IFA).

Table 12: Summary of Indicator Recommendations for MICS

Category	Indicator	Explanation
Strongly Recommended		
Food security	Food Insecurity Experience Scale (FIES) module	• FIES was used in the NFCMS 2021 and is used by the Gallup poll for SDG monitoring. Questionnaires field-tested in Nigeria are available and can be used for MICS. • Costs would include further training of enumerators and longer time for the interview, analysis, and reporting of the indicator.
Diet Quality	IYCF indicators, unhealthy foods	• Ensure harmonization of methods of asking questions across household survey programmes (e.g., list vs. open recall). • Consider adoption of the country-adapted diet quality (DQQ) questionnaire used by Gallup world, which uses sentinel foods for each food group.

28 MICS-6 questionnaires: https://mics.unicef.org/tools

Category	Indicator	Explanation
Strongly Recommended		
Coverage of Nutrition & Nutrition-relevant Interventions in the Health Sector	ANC 8+ visits	• Calculate and report indicator for at least 8 ANC visits during pregnancy. • Added costs are very low and limited to the analysis phase.
	MIYCN counselling during pregnancy	• Harmonize with new indicator and question in DHS-8. • Added costs should be low given the similarity to pre-existing questions.
	MIYCN counselling during PNC	• Modify wording to match the NDHS-8 question (“talk with you” instead of “counsel”). • Calculate and report indicators for “talk to you about breastfeeding” and “observe you breastfeeding” separately. • Added costs are very low and limited to the analysis phase.
	High-dose Vitamin A supplementation in children	• Recommend adding the question from NDHS. • Added costs should be low given the similarity to pre-existing questions. • Unclear why it was removed from MICS in previous years (e.g., not collected in 2017).
	Deworming in children	• Recommend adding the question from NDHS. • Added costs should be low given the similarity to pre-existing questions. • Unclear why it was removed from MICS in previous years (e.g., not collected in 2017).
	Child growth monitoring and promotion	• Recommend adding the new indicator and question from DHS-8. • Added costs should be low given yes/no questions and will be used in NDHS.
	Wasting screening	• Recommend adding the new indicator and question from DHS-8. • Added costs should be low given yes/no questions and will be used in NDHS.
	Micronutrient powder (6-59 months)	• Recommend adding the new indicator and question from DHS-8. • • Added costs should be low given yes/no questions and will be used in NDHS.
	Social protection programme	• Add MICS-6 module with questions related to household participation in social protection programmes. • Added costs will be moderate given (1) the need to adapt the question to the Nigerian context; however, it can draw from World Bank national surveys and (2) the need to develop a meaningful indicator given nutrition target age groups (e.g., HH with children under 5; or HH with children under 2).

Category	Indicator	Explanation
Recommended for Consideration		
Nutritional status	MUAC for children 6-59 months	• NIS Task team recommends annual estimates of wasting based on MUAC in children. • Added costs are moderate, given the anthropometric measurements are already being taken in this population. MUAC is relatively quick. However, it does require additional training and implementation time. • MICS is already content-heavy and has a high bar for additions. Therefore, how the data will be used by the health sector needs to be fully considered before proposing this addition.
	BMI-for-age Z-score for school-aged children & adolescents	• MICS-6 global questionnaire includes children 5-17y as respondents in the child module. • The added cost of anthropometric data will be high given the large sample size. Should consider sub-sample or other ways to reduce cost. • MICS is already content-heavy and has a high bar for additions. Need to consider the feasibility of alternate source (e.g., school survey).
	Waist circumference: School-aged children & adolescents	• Recommend that anytime BMI is collected, waist circumference is also collected for adolescent girls, boys, and adult populations. • Add indicator for adolescent boys and girls to MICS, as MICS-6 global questionnaire includes child module with children 5-17y. • The added cost of anthropometric data will be high given the larger sample size. It will require additional training, data collection, and implementation time. Should consider sub-sample or other ways to reduce cost.
Coverage of Nutrition & Nutrition-relevant Interventions in the Health Sector	Iron folic acid supplementation during pregnancy	• MICS-6 core questionnaire does not include an IFA indicator; historically, it has not been collected. • The added costs are relatively low given questions are available from NDHS. • The survey programme will likely be resistant to addition; strong advocacy is required. Therefore, how the data will be used by the health sector needs to be fully considered before proposing this addition
	Iron folic acid (IFA) /Multiple micronutrient supplements (MMS)	• Add an indicator on the use of iron-containing supplements. • There is no global standard indicator specific to MMS. It will be important to validate whether respondents can accurately differentiate between IFA and MMS if this is preferred over “any iron-containing supplement” (see Section 2, Recommendation 6).
	Preventative iron supplementation for older adolescent girls (15-19y)	• See above explanation for IFA during pregnancy.

Category	Indicator	Explanation
Recommended for Consideration		
	Food supplementation for complementary feeding	• Added costs are moderate. No global indicator exists. Would need to develop and test indicator and questions prior to implementation. However, if adopted in NDHS, this will have already been completed. • MICS is already content-heavy and has a high bar for additions. Therefore, how the data will be used by the health sector needs to be fully considered before proposing this addition.

Other recommendations:

Quality issues have been noted for anthropometric data included in MICS and NDHS in Nigeria. We recommend increasing the financial resources available to support high-quality anthropometric data collection. Nutrition stakeholders will be important advocates in securing financing for additional costs associated with improving data quality. (e.g., staff, training, rigorous standardization, field supervision). Cost savings from removing child weight and height from the majority of NNHS can potentially be reallocated to NDHS and MICS.

4.3 NNHS

The NNHS, also referred to as the "SMART," is the most flexible of national survey platforms for the potential inclusion of nutrition indicators. The content has evolved significantly over time, and it can be used more explicitly to fill nutrition data gaps. However, it is also important that the overall survey length remains manageable. Also, issues of survey coordination, financing, and sampling design need to be addressed.

Table 13: Summary of Indicator Recommendations for NNHS

Category	Indicator	Explanation
Strongly Recommended		
Nutritional status	Indicators derived from child weight and height (HAZ, WHZ, WAZ)	• Only collect weight and height data in the NNHS if there hasn't been a DHS or MICS survey in the two years preceding an NNHS survey. • Cost savings can be used to collect content not available in other surveys and invested in improved anthropometry quality in NDHS and MICS (see Sections 4.1 and 4.2).
Diet Quality	IYCF indicators, MDD-W, and unhealthy foods	• Add indicator for WRA. • Add indicators for unhealthy food consumption for the different population groups. • Ensure harmonization of methods of posing questions across household survey programmes (e.g., list vs. open recall). • Consider adoption of the country-adapted diet quality questionnaire used by Gallup world, which uses sentinel foods for each food group and can provide data for adult males.

Category	Indicator	Explanation
Strongly Recommended		
Diet Quality	IYCF indicators, MDD-W, and unhealthy foods	• Added costs are moderate to high, given the need for additional training and added length to the overall survey, including time for the probing required to collect this information, adapting tool, data entry, analysis, and reporting.
	Biofortified foods	• Adding the indicators and questions used in the NFCMS to the NNHS will provide estimates every 2-3 years for households (fortified food vehicles) and children 6-23m/WRA (biofortified foods). • Added costs are low/moderate, given the need for additional training and added length to the overall survey. However, questions are available from NFCMS. • Need to consult with micronutrient data stakeholders about the relative priority of information and alternative data collection platforms.
	Fortified food staples	
Household food & water insecurity	Food Insecurity Experience Scale (FIES) module	• See section 4.1 on the recommendation for inclusion in NDHS. Questionnaire should be available. • Costs may include further training of enumerators and longer interview time, analysis, and reporting of indicator.
Coverage of Nutrition & Nutrition-relevant Interventions in the Health Sector	ANC 8+ visits	• Calculate and report indicator for at least 8 ANC visits during pregnancy. • Added costs are very low and limited to the analysis phase.
	Preventative iron supplementation in late adolescence (girls 15-19y)	• Add question about receiving iron-containing supplements for all non-pregnant females aged 15-19y. • See indicator and question used in NFCMS 2021. • Added costs should be low given the similarity to pre-existing questions about IFA during pregnancy.
	Iron folic acid (IFA) / multiple micronutrient supplements (MMS)	• Consider changing the question on iron supplementation to capture the different iron-containing supplements available in Nigeria, including IFA and MMS. • There is no global standard indicator specific to MMS. It will be important to validate whether respondents can accurately differentiate between IFA and MMS if this is preferred over “any iron-containing supplement” (see Section 2, Recommendation 6).

Category	Indicator	Explanation
Strongly Recommended		
Coverage of Nutrition & Nutrition-relevant Interventions in the Health Sector	Maternal, infant, and young child (MIYCN) counselling during pregnancy	• Harmonize with the indicator and questions in NDHS (see Section 4.1). • Added costs should be low given yes/no questions that have been used in other survey programmes.
	Breastfeeding counselling and support during post-natal care	
	Child growth monitoring	
	Wasting screening	
	Micronutrient powder (6-59 months)	
Recommendations for Consideration		
Diet quality	Unhealthy foods for boys and girls in early adolescence (10-14y)	• No national population-based data on intake of unhealthy foods for girls and boys in early adolescence (10-14 years) are currently available or collected in national household surveys. • Explore adding indicator for adolescent boys and girls to NHHS. • Costs will be high as sampling would have to be increased.
	Iodized salt	• Consider adding question about the presence of iodized salt in households. • Along with the recommendations above on fortified food staples, it would contribute to having all data on fortified foods in one survey. • The indicator is also already available in NDHS and MICS, so it may be of lower priority in NNHS. • See indicator and question used in NDHS and MICS. • Added costs will be moderate; they will involve the cost of rapid test kits and time for sample collection and testing.
Household food & water insecurity	Household Water Insecurity Experiences (HWISE) scale	• New global indicator with validated questionnaire available. • Added costs are moderate due to adaptation, training, and increased survey time. • NNHS is the only platform recommended by the NIS Task Team for the collection of this indicator.

Category	Indicator	Explanation
Recommendations for Consideration		
Coverage of Nutrition & Nutrition-relevant Interventions in the Health Sector	Food supplementation for complementary feeding	• Added costs are moderate. No global indicator exists. Would need to develop and test indicator and questions prior to implementation. However, if adopted in NDHS or MICS, this may have already been completed.
	SQ-LNS	• Added costs are moderate. No global indicator exists. Would need to develop and test indicator and questions prior to implementation. • Not recommended for inclusion in NDHS or MICS, so NNHS may be the sole source of estimate and, therefore, should be prioritized for inclusion.
	Receipt of social protection programmes	• Add questions related to household participation in social protection programmes • Can follow the MICS-6 module approach, but simpler questions may be preferred in terms of cost savings. • Added costs will be moderate given (1) the need to develop question(s) for the Nigerian context and (2) the need to develop a meaningful indicator given nutrition target age groups (e.g., HH with children under 5; or HH with children under 2). - Global partners (e.g., DataDENT) have been working on this issue and can provide technical assistance depending on timing.

Other recommendations:

- Address issues with sampling approach based on "SMART" methodology. Sampling is not ideal for how content priorities of the survey have evolved from "hot spot" monitoring for acute risk of malnutrition to national-level monitoring of a wider range of indicators. NBS and other stakeholders are aware of this issue, and it is being discussed. Changes in survey sampling will have considerable cost considerations.
- The flexibility of the platform means that NNHS could be potentially used to collect data in other priority populations such as adolescents, adult men, and the elderly on a semi-regular schedule (i.e., not every survey round). However, this will have significant costs associated with it, and alternative data sources for these key populations should be explored.

4.4 National Food Consumption and Micronutrient Survey

The 2020-2021 NFCMS was the first such survey in more than 20 years and provides essential information for the development of micronutrient control programmes, including food fortification. The 2020-2021 survey was very costly in terms of time and money, but there are now tools, processes, and baseline data to build from in future data collection efforts.

Table 14: Summary of Indicator Recommendations for NFCMS

Category	Topic or Indicator	Explanation
Strongly Recommended		
Nutritional Status	Waist circumference for adolescent girls and women of reproductive age (10-49y)	• NIS Task Team recommends collecting more data on NCD risk. WRA are a sentinel group for assessing overall population changes in NCD risk. Waist circumference is a measure of central adiposity and is preferred to BMI alone for NCD risk assessment. • Added costs are moderate, given anthropometric measurements are already being taken in these populations. However, it will require additional training and survey implementation time. • NFCMS is unique among the platforms because it includes younger adolescent girls in the sample.
Diet quality	MDD-W and unhealthy foods for WRA and children 6-23m	• Add indicators on MDD-W and consumption of unhealthy foods for WRA and children 6-23 m • Ensure harmonization of methods of asking questions across household survey programmes (e.g., list vs. open recall) • Added costs are low given that dietary intake data are already collected for WRA and children 6-23m. However, additional costs consideration include time for indicator analysis and reporting
Coverage of Nutrition-Relevant Interventions in Other Sectors	WASH indicators	• Consider reducing the WASH indicators included in NFCMS to those required for the household wealth index as annual estimates for all JMP indicators are available from other data sources (e.g., the annual WASH-NORM survey).

Other recommendations:

- Conduct debriefing consultation with the NFCMS 2020-2021 team to understand costs and identify lessons learned from the implementation of the survey. The NFCMS is a complex survey to implement. It is extremely important to capture lessons on survey planning, data collection, analysis, and other costs so that adequate time and financing are available for future surveys.
- Start planning early for the next NFCMS survey. If it will be conducted every five years, then the next survey planning cycle should begin as soon as the previous NFCMS survey report is disseminated.
- Nutrition data on some population groups such as the elderly and school-aged children remain a gap. Consider the costs of including other key populations in future data collection.
- Given survey costs, consider all possible platforms for the collection of priority food consumption and micronutrient indicators at a greater frequency (e.g., every five years). For example, select indicators might be added to the NNHS.

4.5 STEPS NCD Survey

This survey was being planned at the time these recommendations were developed. The content of the Nigeria-specific questionnaire was not accessible. Therefore, the global STEPS NCD survey questionnaire was used to inform these recommendations. Once the 2022 Nigeria questionnaire is available, the recommendations should be reviewed and updated based on the confirmed questionnaire content.

Table 15: Summary of Indicator Recommendations for STEPS NCD Survey

Category	Topic or Indicator	Explanation
Strongly Recommended		
Household food & water insecurity	Food Insecurity Experience Scale (FIES)	• FIES was used in the NFCMS 2021 and is used by the Gallup poll for SDG monitoring. Questionnaires field-tested in Nigeria are available. • Added costs are moderate due to added time for survey training, data collection, analysis, and reporting of the indicator.
Recommendations for Consideration		
Diet quality	Unhealthy foods	• Adopt DHS-8 unhealthy diet indicators for men and women 18-69y. • Added costs will be moderate; it will require adopting NDHS indicators to the STEPS NCD Survey, updating the survey instrument, added time for survey training, data collection, analysis, and reporting of the indicator.

Other recommendations:

- Engage a wider group of nutrition stakeholders in the planning of future NCD risk factor surveys to promote harmonization of content with other national administrative and survey data sources and increase advocacy for financing.
- Explore whether key indicators from this survey can be cost-effectively integrated into other data platforms (see comment under NDHS in Section 4.1).

4.6 NHMIS and DHIS-2

The NHMIS is the primary administrative data system for health and a pillar of the primary health care system because it collects information on health service delivery for all public health facilities and some private facilities. These data are collected by frontline workers at the facility level and then compiled and inputted into the DHIS-2 by M&E officers at the LGA level. Although there are challenges with data quality due to a number of factors, the NHMIS is a critical data source for monitoring policy and program implementation. Recommendations to address data quality are discussed after Table 16.

Table 16: Summary of Indicator Recommendations for NHMIS/DHIS-2

Category	Topic or Indicator	Explanation
Strongly Recommended		
Nutritional status	Wasting (MUAC)	• Report MUAC by category on the NHMIS monthly summary form. • Added costs are relatively low; information is already collected on facility registers. Initial costs include adding indicator to the summary form, updating DHIS-2 software, and training health facility staff and M&E officers during the next NHMIS review cycle. Monthly recurrent cost is added time for health facility staff to aggregate register data for reporting.
	Child growing well	• Review and clarify indicator calculation and guidance on reporting on the NHMIS manual. • Added costs are relatively low. Requires updating guidance and possibly monthly reporting forms during the next review cycle and training health facility staff and M&E officers on reporting.
	Severe acute malnutrition: Admitted	• Distinguish the indicator for SAM admissions for outpatient care (OTP) and in-patient care (IPC). • Added costs are relatively low. Initial costs include changing and adding indicators to the facility registers and NHMIS monthly summary form, updating DHIS-2 software, and training health facility staff and M&E officers during the next NHMIS review cycle.
Coverage of Nutrition-Relevant Interventions in the Health Sector	Breastfeeding counselling and support during post-natal care	• Report MUAC by category on the NHMIS monthly summary form. • Added costs are relatively low; information is already collected on facility registers. Initial costs include adding indicator to the monthly summary form, updating DHIS-2 software, and training health facility staff and M&E officers during the next NHMIS review cycle. Monthly recurrent cost is added time for health facility staff to aggregate register data for reporting.
	Vitamin A Supplementation	• Review and clarify indicator calculation and guidance on reporting vitamin A supplementation in NHMIS manual to ensure definition is clear about how to compile on the NHMIS monthly summary form. • Added costs are relatively low. Requires updating guidance and possibly monthly reporting forms during the next review cycle and training health facility staff and M&E officers on reporting.
	Micronutrient powder supplementation	• Update indicator definition and tools to include children both children 6-23 and 24-59 months old. • Added costs are moderate. Requires updating of facility registers, NHMIS monthly summary form, and DHIS-2 software during the next review cycle and training health facility staff and M&E officers on reporting.

Category	Topic or Indicator	Explanation
Strongly Recommended		
	Moderate acute malnutrition: Admitted for treatment	• Add MAM treatment admission and management data elements to facility registers and the NHMIS monthly summary form. • New indicators are required but can be adapted from the NHMIS SAM indicators and examples from partners, including WFP. • Costs are moderate. They include updating facility registers, the monthly summary form, and DHIS-2 software during the next review cycle and training health facility staff and M&E officers on reporting.
	Management of moderate acute malnutrition	
Recommendations for Consideration		
Coverage of Nutrition-Relevant Interventions in the Health Sector	Multiple micronutrient supplements	• Add indicator to NHMIS given that scale-up is expected in the near future. • New indicators are required but can be adapted from the NHMIS IFA indicators. See Section 3, Table 4 for notes about distinguishing between IFA and MMS. • Costs are moderate. Requires updating of facility registers, NHMIS monthly summary form, and DHIS-2 software during the next review cycle and training health facility staff and M&E officers on reporting.
Not Recommended		
Coverage of Nutrition-Relevant Interventions in the Health Sector	SQ-LNS	• Intervention is currently in the pilot phase in Nigeria and, therefore, is NOT recommended for inclusion in the NHMIS. Reconsider adding them if and when interventions are at the sub-national scale.

Other recommendations:

- Identify scale-able models for integration of community-level nutrition service data in the NHMIS: Several implementing partners have developed unique models for linking data collected on nutrition services delivered at the community level with the NHMIS system. For example, in two states, Alive & Thrive has worked to strengthen reporting data linkages between health facilities and TBAs and community volunteers doing community-level MIYCN counselling. Another example is the ANRiN community-level mobile application used by non-state actors; discussions on how to link these data with the NHMIS are ongoing with DPRS.
- Actively engage in the early stages of the development of the FMOH Community Health Information System: There are plans within the FMOH to develop a Community Health Information System. The Nutrition Division and other nutrition stakeholders should be involved in early planning discussions to ensure nutrition priorities are reflected in system design.

A number of recommendations for improving data quality for nutrition indicators in the NHMIS were identified as part of background interviews (Appendix 8) and recommended by the NIS Task Team. These include:

- Invest in staff training for NHMIS reporting: Many data quality challenges are documented within the routine NHMIS system, including incomplete data forms, typographic errors, and impossible values. Periodic training on the NHMIS data collection and reporting is needed for health facility and M&E staff, particularly when any changes are made to the system. The FMOH-Nutrition Division and state nutrition programs have a key role in the training and supervision for nutrition indicators in NHMIS.
- Address issues with insufficient facility-level staff time and capacity to complete reporting: Health providers in understaffed facilities have many competing responsibilities. In some cases, overburdened health providers are unable to complete NHMIS monthly summary forms and delegate them to unqualified staff. Increased staffing and tools to improve the efficiency of data aggregation, such as electronic registers, may address these issues.
- Strengthen feedback to facility staff and communicate the value of NHMIS data for policy and program decision-making: National and state-level actors should provide regular feedback to LGA and facility level staff about the data being reported, including how they are being used to inform policy and program decision-making across administrative levels.
- More efforts should be placed into ensuring that all states integrate private facility data into the NHMIS.

4.7 Maternal, Newborn, and Child Health Week (MNCHW) Data

Biannual MNCHW fixed post and outreach activities are facilitated by NPHCDA and implemented by the State Primary Health Care Boards/Agencies and other state-level actors with the support of development partners. Nutrition interventions delivered through MNCHW include Vitamin A and IFA supplementation, deworming, MIYCN counselling, and wasting screening, among others. At present, MNCHW data on nutrition services are collected on tally sheets but are not consistently integrated into NHMIS. As of early 2022, the MNCHW service delivery and data reporting guidelines were under review by NPCHDA. Once available, recommendations in Table 16 will need to be adapted to fit updated guidance.

Table 17: Summary of Indicator Recommendations for MNCHW Data

Category	Topic or Indicator	Explanation
Strongly Recommended		
Coverage of Nutrition-Relevant Interventions in the Health Sector	MIYCN counselling	• Add MICYN counselling for pregnant and lactating women to tally sheets. • Added costs are relatively low. They include clearly defining the data element, adding it to tally sheets, and training health workers to collect and provide a summary report.
	IPTp for malaria	• Add IPTp to tally sheets. • Added costs are relatively low. They include clearly defining the data element, adding it to tally sheets, and training health workers to collect and provide a summary report.
	Micronutrient powder supplementation	• Add MNP to tally sheets. • Added costs are relatively low. They include clearly defining the data element, adding it to tally sheets, and training health workers to collect and provide a summary report.

Other recommendations:

- Integrate MNCHW data with NHMIS data: Nutrition stakeholders must advocate for data on nutrition activities during MNCHW to be consistently and correctly integrated with other NHMIS data. Currently, data on nutrition services delivered across multiple platforms, including routine facility services and MNCHW (e.g., Vitamin A, deworming), can be dramatically underreported in the NHMIS/DHIS-2 due to poorly integrated data. Ideally, this issue will be addressed as part of the forthcoming optimized MNCHW guidance from NPHCDA. However, nutrition stakeholders will still need to support successful implementation.

4.8 National Health Facility Survey

The NHFS was first implemented in 2016 as part of the Saving One Million Lives Program and focused on RMNCH services. The survey samples health posts, public health care facilities, private health facilities, and secondary health facilities across all 36 states and FCT in Nigeria. It provides data on facility-level readiness to deliver high quality services, including inputs (e.g., HR, commodities) and outputs (e.g., quality of care). However, few nutrition-focused readiness indicators are included in the most recent NHFS tool (2016).

Table 18: Summary of Indicator Recommendations for NHFS

Category	Topic or Indicator	Explanation
Strongly Recommended		
Human resources	Nutritionists working in health facilities	• The NHFS includes data on cadres working in facilities but does not capture or report on nutritionists. • Add nutritionist to data collection and indicator report. • Harmonize definition to WHA/WAHO indicator for Nutrition Professional Indicator.
Commodities	Nutrition commodities	• Add indicators on the availability of unexpired nutrition commodities (e.g., Vitamin A, IFA, deworming, RUTF, etc.) available in facilities on the day of the survey. • Commodities need to be clearly identified and captured in the data collection form. Also need to include data and indicators on stock outs. • Added costs are relatively low. Requires adapting existing questions and indicators to reflect information on specific commodities individually, adding indicator on the availability of unexpired commodities.
Recommendations for Consideration		
Quality of care	Staff training	• Most frontline workers in facilities who provide nutrition services are not nutritionists but should receive training on nutrition. • Add questions on nutrition topics to questions on training and report indicators. • Costs are high because efforts will be needed to (1) identify and agree on core competencies health workers need to adequately provide nutrition services and (2) develop and test indicator based on these agreements (see Section 2, Recommendation 6). Costs also include adding questions to the questionnaire, additional time for training, data collection, analysis, and reporting.
	Staff competencies	

Other recommendations:

- Prioritize efforts to identify nutrition-focused readiness indicators: In order to advocate for the inclusion of data on human resources, supply chain, training, and competencies for nutrition in the NHFS, clear readiness indicators for nutrition services need to be defined and agreed to (see Section 2, Recommendation 6). The FMOH Nutrition Division is well-positioned to lead these efforts. If there is an interest in tracking staff or cadre of workers working in nutrition who do not fall under the "nutrition professional" definition[29] or do not work in health facilities, stakeholders should make efforts to define and add indicator. Several development partners currently collect data on health workers and community volunteer training for nutrition; they can help inform discussions.
- Engage with DPRS about upcoming NHFS planning: Engage FMOH-DPRS as they plan for the upcoming NHFS survey to ensure nutrition-focused indicators are incorporated into the NHFS survey.

4.9 Other Administrative Data Sources

The NHLMIS tracks health system commodities in facilities, including essential medicines but historically, had not included nutrition commodities. As of early 2022, the system was reported to be under review by DPRS; representatives from the FMOH nutrition division have been engaged in review and can advocate for the inclusion of nutrition commodities. The National Health Workforce Registry Tool captures data on human resources for health. To date, only 22 states have established the registries for this tool; other states require funding. At present, nutritionists are not reported as a distinct cadre in this system. Lastly, the office of the VP has requested the development of a multi-sector dashboard with centralized information on development partners working in nutrition across all sectors, including geographies reached and services provided. As of April 2022, this data source was in the early planning stages. Table 19 summarizes recommendations for these data sources.

Table 19: Summary of Indicator Recommendations for Other Data Sources

Category	Topic or Indicator	Explanation
Strongly Recommended		
NHLMIS	Integrating nutrition commodities	• Nutrition Division, with the support of development partners, should identify the processes and resources needed to add nutrition commodities into the NHLMIS, along with development partners involved in tracking specific nutrition commodities in Nigeria (e.g., UNICEF, USAID). • Consider tracking how many facilities are experiencing stockouts of the key nutrition commodities. • Added costs will be moderate to high. Costs will involve clearly defining indicators to track the different commodities, adding indicators to the tool and the platform, and training staff to report the indicators on tools and using the platform. In addition, a monthly recurrent cost is added time for staff to aggregate data for reporting.

29 Global Nutrition Monitoring Framework: operational guidance for tracking progress in meeting targets for 2025. Geneva: World Health Organization; 2017. https://www.who.int/publications/i/item/9789241513609

Category	Topic or Indicator	Explanation
Strongly Recommended		
National Health Workforce Registry Tool	Nutrition professionals (nutritionists)	• Capture and report nutritionists as distinct FMOH cadre rather than the current approach to capture in "other."[30] • Harmonize categorizations with WHA/WAHO indicator for "nutrition professionals per 100,000 population." • Advocate for resources to implement the national health workforce registry tool across all states. • Added costs will be moderate to high given the need to scale the overall system to the entire country, define and develop the indicator, add indicator to the tool and the platform where data is uploaded, and train on reporting.
NGF Nutriton Scorecard	Nutrition budget tracking	• NGF is continuing to work with MDAs, including FMFBNP, and partners, including CS-SUNN, DataDENT, and UNICEF, to operationalize this indicator. • Costs are relatively high as much work remains to be done globally and nationally on how to best capture and count the budgeting and expenditure on nutrition-relevant activities; however, this is considered essential data.
VP Office Nutrition Partner Dashboard	Partner data	• Efforts are in the early stages but should be supported by health sector actors in nutrition to ensure the feasibility and sustainability of the system. • No institution has taken a clear leadership role in this effort. However, several development partners, including UNICEF and ANRIN, have carried out related partner mapping efforts in select states that can be adapted and scaled to the remaining states. • Costs will be moderate to high, given the early stages; however, there is a strong political will to support the efforts, which can be leveraged to advocate with funders.

30 WHO Nutrition professionals density indicator: https://www.who.int/data/nutrition/nlis/info/nutrition-professionals-density;
Global Nutrition Monitoring Framework: operational guidance for tracking progress in meeting targets for 2025. Geneva: World Health Organization; 2017. https://www.who.int/publications/i/item/9789241513609

5.0 Taking the Recommendations Forward

Data are essential for an effective NIS; however, they are just one component of the system. As described in WHO-UNICEF Guidance on National Nutrition Information Systems,[31] other essential components include people, processes and procedures, and technology.

These data-focused recommendations will need to be further prioritized and sequenced as part of a broader National Nutrition Data Framework and operational plan that addresses all essential components of the NIS across sectors and how they can be financed. These recommendations should be reviewed and revised on a regular basis (i.e., at least once a year) by the NIS Task Team and other relevant coordinating bodies, including the M&E Working Group of the National Council on Nutrition (NCN).

The NIS Task Team identified several other critical factors for the successful implementation of these recommendations and the broader NIS, which are summarized below.

1. Leadership and planning for implementation of the recommendations

Clear institutional responsibility is needed to ensure the recommendations are implemented, regularly reviewed, and revised as required. The FMOH Nutrition Division and its NIS Task Team are well-positioned to lead efforts to operationalize and regularly review these recommendations. Adequate funding, technical support, and accountability mechanisms must be provided to the Nutrition Division and NIS Task Team to ensure they are able to carry out this work.

2. Commitment of all nutrition data stakeholders to improved coordination of nutrition data

Lack of coordination is one of the most frequently mentioned barriers to a functional NIS in Nigeria. These recommendations can help support better coordination of nutrition data collection across MDAs, donors, and implementing partners, but only if all stakeholders are aware of and committed to applying them. Actions to promote uptake of the recommendations include:

- Disseminate the recommendations widely across Nigeria's nutrition community.
- Ensure nutrition stakeholder representation on review and planning committees for specific data platforms (e.g., NDHS, NHMIS, etc.); representatives must be briefed on the recommendations and prepared to actively advocate for their adoption.
- MDAs, donors, and implementation partners should harmonize policy and program accountability frameworks with the indicators, data sources, and timelines proposed in the recommendations.
- M&E plans for nutrition programs should also be harmonized with the indicators, data sources, and timelines proposed in the recommendations

3. Sufficient resources, including a budget, time, and technical assistance, are fully available to support timely, high-quality data collection and dissemination

Sufficient resources for planning, collecting, and reporting quality nutrition data should be a high government priority. In recent years implementation of several nutrition-focused surveys (e.g., NFCMS, WHO-STEPS, NNHS) has been delayed due to insufficient financing, technical capacity and/or preparation time. The collection of nutrition indicators added to the NHMIS in 2019 has also been delayed due to a lack of resources to print, distribute, and train facility staff in the use of the updated tools. Nutrition-focused MDAs and partners must take steps to improve budgeting and expenditure for nutrition data, including:

- Develop a clear budget as part of the NIS operational plan and include a reasonable financing plan with clear time-bound milestones.
- Reallocate cost savings from implementing the recommendations (e.g., reducing the frequency of weight and height data collection in the NNHS) to address priority data gaps, including designing surveys with sufficient sample sizes to allow for the reporting of indicators at the sub-national level whenever feasible.

31 WHO-UNICEF Guidance on NIS: https://data.unicef.org/resources/nutrition-nnis-guides

- Advocate for adequate budget allocation in specific data collection activities to ensure quality data collection of nutrition indicators, particularly in multi-topic surveys with competing content and funding priorities. An adequate budget is also needed for training and supervising the frontline workers and M&E officers who collect and report administrative data.
- Reduce dependence on donor funding for nutrition data collection and include costs of periodic nutrition surveys in national planning and budgeting cycles.

4. Generate demand for data and create an enabling environment that promotes the effective use of available nutrition data

Data use is essential for fostering data demand and improving data quality. If data are collected but cannot be easily accessed and used by all stakeholders, they are not serving their intended purpose. Analysis and reporting of data collected through all surveys and administrative platforms must be timely so that decision-makers can use the information.

Improved data use also requires increased investment by government and donors in institutional and individual capacity development for each step along the nutrition data value chain, including data coordination, planning, collection, analysis, dissemination, and use. Nigeria's university partners can play a special role in this capacity development work.

Conclusion

The development of these recommendations is an important step toward establishing a NIS that serves the needs of nutrition stakeholders in Nigeria's health sector. We used a comprehensive and inclusive approach to identify nutrition data priorities and make practical recommendations for how to meet data needs through existing survey and administrative data sources. Operationalizing these recommendations as part of a comprehensive NIS strategy will require full commitment and ongoing collaboration from all nutrition stakeholders.

Appendices

Appendix 1: NIS Task Team Members

N	Member	Organization
1	Dr. Binyerem Ukaire	FMOH- Nutrition Division
2	Pharm. Beatrice Orume	FMOH- Nutrition Division
3	Mrs. Eunice C. Kodak	FMOH- Nutrition Division
4	Mr. Muheez Kasim	FMOH- Nutrition Division
5	Dr. Anthony Adoghe Mr. Aliyu Agwai	FMOH- Department of Planning, Research, and Statistics (DPRS)
6	Mrs. Chito Nelson	Federal Ministry of Budget and National Planning
7	Dr. Ogechi Akalonu	National Primary Health Care Development Agency
8	Dr. S. B. Harry Mr. Adeyemi Adeniran Mr. Kola Ogundiya Mrs. Abiola Victoria	National Bureau of Statistics
9	Mr. Rasaki Arasah Mr. Edward Kutondo	UNICEF
10	Dr. Ritgak Dimka Mr. Afomachukwu Okafor	World Bank – ANRiN
11	Mr. Duke Lawrence Ogbokor	FHI360, Alive & Thrive Nigeria
12	Mrs. Karina Lopez Mrs. Angela Samba	Save the Children
13	Dr. Kola Matthew Anigo	Ahmadu Bello University, Zaria
14	Mr. Sunday Okoronkwo Mrs. Jayne Arinze Egemonye	CS-SUNN
15	Dr. Victor Ajieroh	Bill and Melinda Gates Foundation

Appendix 2: NIS Task Team Meeting Schedule

Task Team Meeting	Key Activities
1st Meeting November 16, 2021 (in-person)	• Introduction to the task team • Agreement on goals and approach
2nd Meeting January 18, 2022 (virtual)	• Review of formative findings (policy review, interviews, data mapping) and discussion of possible recommendations for outcomes and determinants of malnutrition indicators using the UNICEF Framework
3rd Meeting February 4, 2022 (virtual)	• Review of formative findings (policy review, interviews, data mapping) and discussion of possible recommendations using the UNICEF Framework: Outcome and determinants of malnutrition indicators (continued)
4th Meeting February 22, 2022 (virtual)	• Review of formative findings and discussion of possible recommendations using the UNICEF Framework: maternal and child interventions
5th Meeting March 16 & 17, 2022 (in-person)	• Review of formative findings and discussion of possible recommendations using the UNICEF Framework: interventions outside the health sector, readiness for implementation, and the enabling environment • Review of recommendations • Prioritization and costing considerations

Appendix 3: Reviewers of the Recommendations		
N	**Member**	**Organization**
1.	Abdullahi Alhaji M adi	Borno State Primary Health Care Development Agency
2.	Abdulmalik Muhammad Illo	Kebbi State Primary Health Care Development Agency
3.	Abiola Akomolafe	Nutrition, Agriculture and Health initiative (NAHI)
4.	Abosede Ogunsanya	Ogun State Primary Health Care Board
5.	Adams George Ango	Kaduna State Primary Health Care Board
6.	Adebayo Kazeem	United States Agency for International Development (USAID) Advancing Nutrition
7.	Adenike Jagun	World Bank
8.	Adetoke Adekitan	Lagos State Primary Health Care Board
9.	Albertha Nyaku	DataDENT, R4D
10.	Aliyu Agwai	Federal Ministry of Health
11.	Amina Atta	Nutrition International
12.	Anthony Ayeke	European Union-Abuja
13.	Anthony Edozieuno	World Bank
14.	Aromachukwu Okafor	World Bank
15.	Auwal Ibrahim Jauro	Yobe State Primary Health Care Board
16.	Beatrice Orume	Federal Ministry of Health
17.	Blessing Okpa	Rivers State Ministry of Health, Port Harcourt
18.	Blessing Ugwunne	Global Alliance for Improve Nutrition
19.	Chioma Ezeh	USAID
20.	Confidence Ojinika	Federal Ministry of Health
21.	Duke Lawrence Ogbokor	FHI 360 Alive & Thrive
22.	Edward Kutondo	United Nations Children's Fund
23.	Elyse Iruhiriye	DataDENT, Johns Hopkins University
24.	Eunice C Kodak	Federal Ministry of Health
25.	Florence N Uchendu	Nutrition Society of Nigeria, FCT Chapter
26.	Goodness Chidi Anyanwu	Federal Ministry of Health
27.	Iliya Musa Sohe	Federal Ministry of Health

N	Member	Organization
28.	Isaac Onekutu	Federal Ministry of Health/National Product Supply Chain Management Program (NPSCMP)
29.	John Uruakpa	Federal Ministry of Health
30.	Juliet Afe	Delta State Primary Health Care Development Agency
31.	Julius Likuna	Federal Ministry of Budget and National Planning
32.	Justus Uzim	USAID
33.	Kasim Muheez Seun	Federal Ministry of Health
34.	Kelias Msyamboza	World Health Organization (WHO)
35.	Kenechi Onwukwe	Federal Ministry of Health/NPSCMP
36.	Kola Matthew Anigo	Ahmadu Bello University, Zaria
37.	Lydia S. Ishaku	Plateau State Primary Health Care Board
38.	Marvellous Olatunji	Nigeria Governors' Forum (NGF) Secretariat
39.	Maryam Buhari-Shehu	Aliko Dangote Foundation
40.	Natasha Ledlie	DataDENT, R4D
41.	Ngozi Nnam	University of Nigeria Nsukka
42.	Nmerechi Ofoegbu	Abia State Primary Health Care Development Agency
43.	Ogbonna Cyprian Nathaniel Nwiboko	Ebonyi State Ministry of Health
44.	Ogechi Akalonu	National Primary Health Care Development Agency
45.	Olufolakemi Anjorin	NAHI
46.	Olutayo Adeyemi	University of Ibadan
47.	Oluwagbenga Sadik	NGF Secretariat
48.	Ramatu Musa Haruna	Kaduna State Primary Health Care Board
49.	Rebecca Heidkamp	DataDENT, Johns Hopkins University
50.	Salisu Maiwada Abubakar	Bayero University, Kano
51.	Tinau Umar Zubair	Federal Ministry of Health
52.	Victor Ajieroh	Bill and Melinda Gates Foundation
53.	Wasiu Afolabi	Nutrition Society of Nigeria
54.	Yashodhara Rana	DataDENT, R4D

Appendix 4: Findings from Review of Cost Considerations

Background

Cost considerations are critical to ensure sufficient resources are available when deciding whether, how, and where to collect specific nutrition indicators with high quality. To this end, the team identified cost considerations through a review of documents and budgets as well as interviews with 32 international and Nigerian stakeholders involved in five data platforms in Nigeria—NDHS, MICS, NFCMS, NNHS, and NHMIS/DHIS-2. Below, we present key findings stemming from the review. For further information, please contact Albertha Nyaku at anyaku@r4d.org.

Findings.

When evaluating recommendations for adding or removing nutrition indicators across data platforms, stakeholders should keep cost considerations in mind to ensure:

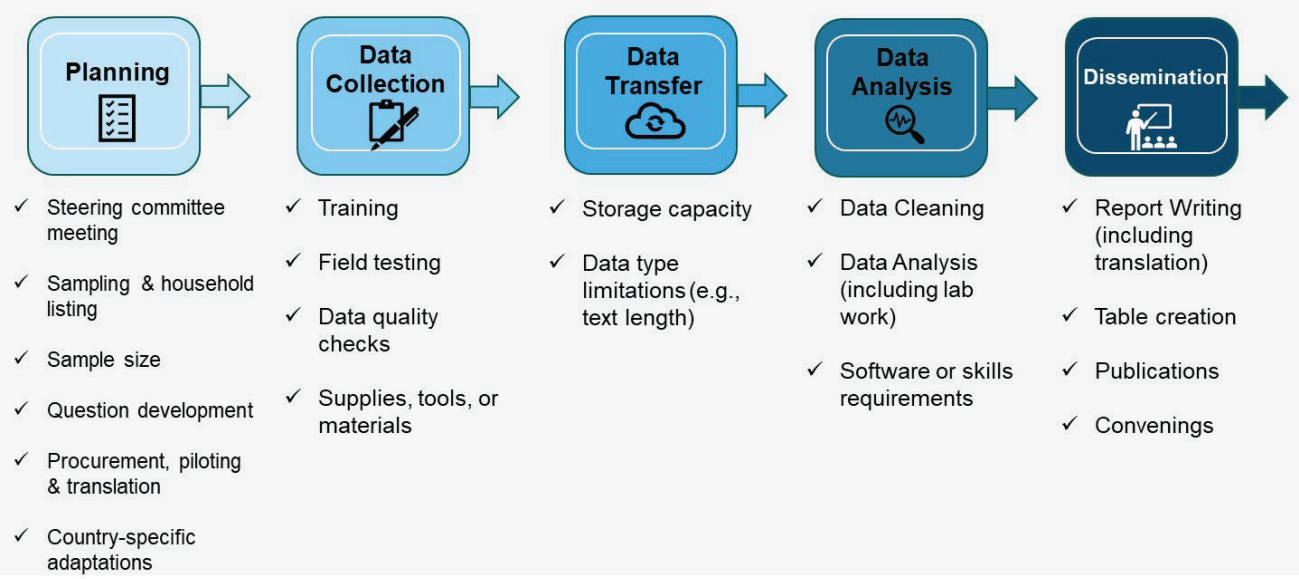
1. Monetary and non-monetary costs are considered when assessing the implications of changes to existing data platforms. Non-monetary costs are largely reflected in data quality or dissemination. For example, adding any questions to a survey increases the time it takes to conduct the survey. Lengthening the time of a survey can result in "survey fatigue," leading to low-quality responses and possible bias due to incomplete surveys. Additional indicators lead to a higher reporting burden, which can lead to lowered quality of reports or fewer dissemination platforms.

2. Indicators are included in a manner and on a platform that minimizes costs for the coverage and frequency required.

a. Adding or removing indicators across data platforms can affect **almost all phases of indicator development and not just the cost of collecting the data.** Figure Appendix 4.1 presents five key phases for overall nutrition data collection common to most data platforms—planning, data collection, data transfer, data analysis, and dissemination. It also lists examples of sub-activities within these phases where there could be cost implications when adding or removing nutrition indicators.

b. The extent to which cost will affect each of these phases will vary by **platform** and is also affected by the complexity of the **indicator** and the specific **questions** forming the indicator.

Figure Appendix 4.1: Cost Considerations Across Key Phases of Data Collection



Given these two key findings, Table Appendix 4.1 lists questions that stakeholders should ask across phases that emerged from the review. An example of each of the identified phases is included below.

Planning: Do the indicator question(s) impact the expertise that needs to be developed by the team? Platform-specific considerations. If the question or indicator includes new topic areas, additional resources may be required to formulate the questions. The topic area may be new on some platforms but not on others, meaning the costs for planning will differ across platforms.
Indicator-specific considerations. An indicator that is globally validated, such as stunting, is simpler and less costly to plan than the inclusion of an indicator that has not been well-validated or must be adapted to the country context, such as minimum dietary diversity.
Question-specific considerations. The specific questions needed to create the indicator must also be considered. For example, stunting requires height, sex, and age. Planning for an external measurement, such as height, requires more resources than planning for a binary question such as sex, especially if it is the only external measurement included in the platform.

Data collection: Do the indicator question(s) impact training requirements for data collection staff? This impacts staff and trainer time, the training process, and the cost of hosting a training.
Platform considerations. Platforms with decentralized training will incur more costs than those with more centralized systems.
Indicator-specific considerations. Indicators requiring new topics for the platform, such as food consumption, require more training than indicators that are more well-understood such as low birth weight.
Question-specific considerations. Questions that can have multiple responses, especially with probing, require specialized training and additional time to administer. For example, the verification of exclusive breastfeeding requires probing for all food and drinks.

Data transfer: Do the indicator question(s) impact additional data transfer procedures?
Most stakeholders did not identify cost considerations having to do with data transfer. Issues that may need to be considered in data transfer are the data capacity of tablets, which may alter the frequency for downloads, size restrictions for text fields, and the transfer of data from laboratories to central systems.

Data analysis: Do the indicator question(s) impact requirements for specialized analysis skills or tools? Platform and indicator-specific considerations. Some indicators may require software, data processors, or specific skill sets to analyse the data that is different than the software used for the majority of questions. Each platform uses a different software, which comes with different costs to maintain licenses, and requires staff who are trained in its use. Questions requiring laboratory analysis, such as iron or vitamin A status, have costs that will vary depending on the test used and the location of the laboratory.
Question-specific considerations. Multiple response questions that include an “other” category take a significant amount of staff time to classify the “other” responses into the correct categories.

Dissemination: Does the indicator require complex tables or an explanation to present the indicator in the final report? Creating tabulations is a time-intensive process. Every change to the data being reported requires adjusting the code that creates the tabulations, which introduces an opportunity for error.
Platform-specific considerations. Each platform has a different approach to reporting; DHIS 2 prepares a dashboard after each revision, while DHS prepares standard tabulations but adapts the tabulations to the country context, which can be incredibly time-intensive and may potentially introduce errors.
Indicator-specific considerations. More complex indicators, such as the Food Insecurity Experience Scale (FIES), require more explanation to ensure the results are clearly conveyed.

Table Appendix 4.1: Cost Consideration Questions Stakeholders Should Ask Across All Data Phases

Phase	Questions	Indicator	Platform
Planning	Are question types being introduced or removed?	Does it impact supporting documentation to be developed? Does it impact requirements for external validation?	Will the questions be added/removed from the core survey or optional modules? Does it impact the expertise needed by the team? Does it impact external technical assistance requirements from the team? Does it require new modules and/or questionnaires (for surveys) or forms (for administrative)? Does it impact pilot requirements for the platform? Does it require additional translation services? Will training take place at a central location or decentralized? Does it impact ethical review processes?
	Do the questions include additional probing and verification?	Does it impact materials for data collection?	What is the coverage of these data collection platforms?
Data Collection	Do the questions impact the time needed to collect the data?	Does it impact the data collection burden on staff? Does it impact the length of the survey/ form completion process? Does it impact which household members need to be present for data collection?	Does it impact training requirements for implementation staff (e.g., to be trained on new tools and questions)? Does it impact the sample size for the data platform? Does it require oversampling difficult sub-samples or engaging with infants and young children? Does it impact the amount of information that needs to be checked for data quality?
Data Transfer	Do the questions impact data transfer procedures?		Does it impact data transfer procedures? Does it impact requirements for analysis skills or tools?
Data Analysis	Does the question include complex analyses (e.g., an “other” option)?	Does it impact data analysis steps or resources? (e.g., sending samples to a lab)	Does the data platform have a detailed data quality assurance process? Does it impact the amount of information that must be checked for data quality?
Dissemination		Does it impact the reporting layout?	Which country is the report layout happening in? Local or international? Does it impact translation needs?

Appendix 5: List of Nutrition and Health Policies Reviewed

Sector	N	Policy
Nutrition	1	National Policy on Food and Nutrition in Nigeria (2001-2016)
	2	National Plan of Action on Food and Nutrition in Nigeria (2005-2015)
	3	National Policy on Infant and Young Child Feeding in Nigeria (2010)
	4	National Strategic Plan of Action for Nutrition (NSPAN): Health Sector Component (2014-2019)
	5	National Social and Behavioural Change Communication Strategy for Infant and Young Child Feeding (IYCF) in Nigeria (2016-2020)
	6	National Policy on Food and Nutrition in Nigeria (2016-2025)
	7	National Strategic Plan of Action on Food and Nutrition in Nigeria (NSPAN II) (2021-2025)
	8	National Multisectoral Action for Food and Nutrition (2021-2025)
Health	9	Task-Shifting and Task-Sharing Policy for Essential Health Care Services in Nigeria (2014)
	10	National Strategic Plan of Action on Prevention and Control of Non-Communicable Diseases (2015)
	11	National Health Policy: Promoting the Health of Nigerians to Accelerate Socioeconomic Development (2016-2020)
	12	National Child Health Policy (2017)
	13	National Reproductive Health Policy (2017)
	14	National HIV/AIDS Strategic Framework (2017-2021)
	15	Second National Strategic Health Development Plan (2018-2022)
	16	National Health Promotion Policy (2019)
	17	National Multi-sectoral Action Plan for the Prevention and Control of Non-Communicable Diseases (2019-2025)

Appendix 6: Summary of Nutrition and Health Policies Reviewed

Policy	Year Policy Start	Year Policy Ends	Indicadtor / topic	Mentioned in policy narrative (Y/N)	Included in M&E Section (Y/N)	Specific Indicator from M&E framework (If applicable)	Target specified for indicator in objectives or M&E section	Data source for indicator explicit? (Y, N, General)	Data source(s) for indicators
National Policy on Food and Nutrition in Nigeria	2001	2016	U5 stunting	Y	N	-	-	General	Surveys, administrative system, child monitoring and promotion programmes, Rapid Rural Appraisal
			U5 underweight	Y	N	-	-		
			U5 wasting	Y	N	-	-		
			Maternal undernutrition	Y	N	-	-		
			Low birth weight	Y	N	-	-		
			Maternal mortality	Y	N	-	-		
			Non-communicable diseases	Y	N	-	-		
			Micronutrient deficiencies	Y	N	-	-		
			Micronutrient deficiencies: iodine deficiency	Y	N	-	-		
			Micronutrient deficiencies: Vitamin A deficiency	Y	N	-	-		
			Anaemia	Y	N	-	-		
			Child feeding and childcare	Y	N	-	-		
			Food insecurity	Y	N	-	-		
			Health care service	Y	N	-	-		
			environmental sanitation	Y	N	-	-		
			education	Y	N	-	-		
			community development	Y	N	-	-		
National Plan of Action on Food and Nutrition in Nigeria	2005	2015	U5 stunting	Y	Y	% stunted	-	N	-
			U5 wasting	Y	Y	% wasted	-	N	-
			U5 underweight	Y	Y	% underweight	-	N	-
			Undernutrition – adolescents	Y	Y	BMI of adolescents	-	N	-
			Acute malnutrition	Y	Y	prevalence of moderate acute malnutrition	Decrease moderate acute malnutrition by 30% by 2010	N	-
			Acute malnutrition	Y	Y	prevalence of severe acute malnutrition	Decrease severe acute malnutrition by 30% by 2010	N	-

32 Y: Yes; N: No; [-]: Not applicable; General: Data source was not specificied for specific indicator or topic but a list of sources were mentioned

Policy	Year Policy Start	Year Policy Ends	Indicadtor / topic	Mentioned in policy narrative (Y/N)	Included in M&E Section (Y/N)	Specific Indicator from M&E framework (If applicable)	Target specified for indicator in objectives or M&E section	Data source for indicator explicit? (Y, N, General)	Data source(s) for indicators
			Low birth weight	Y	N	Low birth weight (<2.5kg)	reduce the rate of low birth weight from 17% to less than 10% by 2010	N	-
			Undernutrition – women	Y	N	-	-	N	-
			Undernutrition – elderly	Y	N	-	-	N	-
			Diet-related NCDs	Y	N	-	reduce diet-related non-communicable diseases by 25% of current levels by 2010	N	-
			Anaemia	Y	N	-	decrease iron-deficiency anaemia (36.5%) by 50% by 2010	N	-
			Micronutrient deficiencies: Iodine deficiency	Y	N	-	decrease iodine deficiency disorders (17%) by 50% by 2010	N	-
			Micronutrient deficiencies: Vitamin A deficiency	Y	N	-	decrease Vitamin A deficiency (29.5%) by 50% by 2010	N	-
			Micronutrient deficiencies: Zinc deficiency	Y	N	-	-	N	-
			Child morbidity (parasitic infections)	Y	N	-	reduce the prevalence of parasitic diseases that aggravate the poor nutritional status of infants and children by 25% of the current levels	N	-
			Dietary intake	Y	N	-	-	N	-
			IYCF practices	Y	N	-	-	N	-
			Food insecurity	Y	Y	food availability	food availability – 100%	N	-
			Food production	Y	N	-	-	N	-
			Access to high-quality foods	Y	Y	food affordability	food affordability – 100% HH	N	-
			Caregiver knowledge and attitudes (food and nutrition)	Y	N	-	-	N	-

Policy	Year Policy Start	Year Policy Ends	Indicadtor / topic	Mentioned in policy narrative (Y/N)	Included in M&E Section (Y/N)	Specific Indicator from M&E framework (If applicable)	Target specified for indicator in objectives or M&E section	Data source for indicator explicit? (Y, N, General)	Data source(s) for indicators
			WASH	Y	N	-	improve general sanitation and hygiene, including the availability of safe drinking water from the 54% level	N	-
National Policy on Infant and Young Child Feeding in Nigeria	2010	no end date	U5 stunting	Y	N	-	-	N	-
			U5 wasting	Y	N	-	-	N	-
			U5 underweight	Y	N	-	-	N	-
			Low birth weight	Y	N	-	-	N	-
			Micronutrient deficiency: Vitamin A	Y	N	-	-	N	-
			Micronutrient deficiency: Iodine	Y	N	-	-	N	-
			Micronutrient deficiency: Iron	Y	N	-	-	N	-
			Micronutrient deficiency: Zinc	Y	N	-	-	N	-
			Exclusive breastfeeding	Y	N	-	-	N	-
			Complementary feeding	Y	N	-	-	N	-
			Other IYCF practices	Y	N	-	-	N	-
			Child morbidity: Infections, diarrhoea	Y	N	-	-	N	-
			Adolescence friendly health service	Y	N	-	-	N	-
			Nutrition counselling and support	Y	N	-	-	N	-
National Strategic Plan of Action for Nutrition (NSPAN): Health Sector Component	2014	2019	U5 stunting	Y	Y	% of children U5 who are stunted	reduce stunting from 36% to 28% by 2019	Y	NIS, NHMIS, NDHS, MICS
			U5 underweight	Y	N	-	-	N	-
			U5 wasting	Y	Y	% of children U5 who are wasted	reduce wasting from 10% to 5% by 2019	Y	NIS, NHMIS, NDHS, MICS
			Low birth weight	N	Y	% of infants born with low birth weight	reduce low birth weight by 15% by 2019	Y	NIS, NHMIS

Policy	Year Policy Start	Year Policy Ends	Indicadtor / topic	Mentioned in policy narrative (Y/N)	Included in M&E Section (Y/N)	Specific Indicator from M&E framework (If applicable)	Target specified for indicator in objectives or M&E section	Data source for indicator explicit? (Y, N, General)	Data source(s) for indicators
			Acute malnutrition screening	N	Y	% U5 children screened at a community level and referred for nutrition management	N	Y	
			SAM recovery	N	Y	% discharges of stabilization centres that recover from SAM	increase % discharges of stabilization centres that recover from SAM to 90% by 2019	Y	
			Overweight and obesity (children)	Y	Y	% of children U5 who are overweight	N	Y	NIS, NHMIS, NDHS, MICS
			Overweight and obesity (women)	Y	Y	% of women who are overweight	N	Y	
			Anaemia (women)	Y	Y	% of women of reproductive age with anaemia	N	Y	
			Micronutrient deficiencies: Iodine deficiency	Y	N	-	-	N	-
			Micronutrient deficiencies: Zinc deficiency	Y	N	-	-	N	-
			Micronutrient deficiencies: Vitamin A deficiency	Y	N	-	-	N	-
			Diet-related NCDs	Y	N	-	-	N	-
			Exclusive breastfeeding	Y	Y	% of children exclusively breastfed for first 6m	increase exclusive breastfeeding rates from 15% to 40% by 2019	Y	NIS, NHMIS, NDHS, MICS
			Early initiation of breastfeeding	N	Y	% infants initiated on breastfeeding within 1/2 hr of birth	N	Y	
			Complementary feeding	Y	Y	% children 6-59m who received five or more foods in the last 24 hours	Increase complementary feeding from 24% to 35% by 2019	Y	
			Access to healthcare	Y	N	-	-	N	-
			Child illnesses (malaria, diarrhoea, pneumonia)	Y	N	-	-	N	-

Policy	Year Policy Start	Year Policy Ends	Indicadtor / topic	Mentioned in policy narrative (Y/N)	Included in M&E Section (Y/N)	Specific Indicator from M&E framework (If applicable)	Target specified for indicator in objectives or M&E section	Data source for indicator explicit? (Y, N, General)	Data source(s) for indicators
			Immunization	Y	N	-	-	N	-
			Vitamin A supplementation	N	Y	% of children 6-59m who received vitamin A within last 6m	Increase % of children who received Vitamin A within 6m from 65% to 95% by 2019	Y	NIS, NHMIS, NDHS, MICS
			Deworming	N	Y	% of children 12-59m who received deworming in past 6m	Increase % of children who received deworming in the past six months from 25% to 95% by 2019	Y	
			Iron and folic acid supplementation	N	Y	% pregnant women receiving iron and folic acid	N	Y	NIS, NHMIS
			Women's postnatal Vitamin A supplementation	N	Y	% postnatal women receiving vitamin A % of children 6-59m who received vitamin A within last 6m	N	Y	NIS, NHMIS, NDHS, MICS
			Baby-friendly health initiative health facilities	N	Y	% health facilities certified BFHI/ % of health facilities that have screening and referral services related to DRNCD	N	Y	NIS, NHMIS, special surveys
			Community participation	Y	Y	% trained facility and community-based health workers sensitizing women on optimal IYCF/ % U5 children screened at the community level and referred for nutrition management	N	Y	NIS, NHMIS,

Policy	Year Policy Start	Year Policy Ends	Indicadtor / topic	Mentioned in policy narrative (Y/N)	Included in M&E Section (Y/N)	Specific Indicator from M&E framework (If applicable)	Target specified for indicator in objectives or M&E section	Data source for indicator explicit? (Y, N, General)	Data source(s) for indicators
			Nutrition commodities	N	Y	% CMAM sites that experience stockouts of key nutrition commodities/ availability of essential equipment and supplies for nutrition	N	Y	
			Quality of care: trained health workers	N	Y	% trained facility and community-based health workers sensitizing women on optimal IYCF	N	Y	NIS, NHMIS, special surveys
			Equipment	N	Y	availability of essential equipment and supplies for nutrition	N	Y	NHMIS Annual report
			Budget for nutrition	N	Y	available gov. budget for nutrition	N	Y	FMOH special report
			NIS data	N	Y	NIS data portal exists	N	Y	FMOH budget
National Social and Behavioural Change Communication Strategy for Infant and Young Child Feeding (IYCF) in Nigeria	2016	2020	Stunting	Y	N	-	no information		no information
			Early initiation of breastfeeding	Y	Y	percent children are put to breast within 30 min of birth	50% of children are put to breast within 30 min of birth by 2020	Y	NDHS
			Exclusive breastfeeding	Y	Y	percent children are exclusively breastfed for the first six months of life	50% of children are exclusively breastfed for the first six months of life by 2020	Y	

Policy	Year Policy Start	Year Policy Ends	Indicadtor / topic	Mentioned in policy narrative (Y/N)	Included in M&E Section (Y/N)	Specific Indicator from M&E framework (If applicable)	Target specified for indicator in objectives or M&E section	Data source for indicator explicit? (Y, N, General)	Data source(s) for indicators
			Complementary feeding	Y	Y	children aged 6-23m receive appropriate liquid and solid, semi-solid, or soft foods	80% of children aged 6-23m receive appropriate liquid and solid, semi-solid, or soft food	Y	
			Minimum dietary diversity	Y	Y	percent children aged 6-23m receive appropriate liquid and solid, semi-solid, or soft food from minimum food groups	80% of children aged 6-23m receive appropriate liquid and solid, semi-solid, or soft food from minimum food groups by 2020	Y	
			Minimum meal frequency	Y	Y	children aged 6-23m receive appropriate liquid and solid, semi-solid, or soft food the minimum number of times	80% of children aged 6-23m receive appropriate liquid and solid, semi-solid, or soft food the minimum number of times or more by 2020	Y	
			Child feeding when sick	Y	Y	percent of children aged 0-23m who receive more fluid during illness (diarrhoea)	80% of children aged 0-23m receive more fluid during illness (diarrhoea)	N	-
			Maternal nutrition	Y	N		no information	N	-
			Antenatal care	Y	N		no information	N	-
						number of states/ LGA/ communities where traditional, religious leaders, including their wives, support mothers including in special circumstances to implement IYCF practices/	by 2020 increase number of states/LGA/ communities where traditional, religious leaders, including their wives support mothers, including in special circumstances to implement IYCF practices// by 2020 80% of traditional birth attendants at states/ LGA/ community levels support mothers,		

Policy	Year Policy Start	Year Policy Ends	Indicadtor / topic	Mentioned in policy narrative (Y/N)	Included in M&E Section (Y/N)	Specific Indicator from M&E framework (If applicable)	Target specified for indicator in objectives or M&E section	Data source for indicator explicit? (Y, N, General)	Data source(s) for indicators
			IYCF resources	Y	Y	percent of mother-to-mother support groups and other community-based organizations take autonomous action to promote IYCF/ percent IYCF community volunteers work more efficiently to raise the IYCF compliance rate/ national and state-level SBCC working groups and LGA social mobilization committees support effective implementation of IYCF practices /federal, state, and LGAs level agencies have IYCF communi-cation programme/ percent of decision-makers at federal/ state and LGA levels commit to release resources for IYCF SBCC programme /	including those in special circumstances to practice early IBF, EBF, and CF// by 2020 80% of mother-to-mother support groups and other community based organiz-ations take autonomous action to promote IYCF// by 2020 80% of IYFC community volunteers work more efficiently to raise the IYCF compliance rate// by 2020 national and state level SBCC working groups and LGA social mobilization committees support effective implementation of IYCF practices// by 2020 80% of health facilities in 36 states and FCT integrate and actively promote IYCF practices// by 2020 national and state level SBCC working groups and LGA social mobilization committees report annually on IYCF communi-cation activities and progress// by 2020 number of tradition leaders organizations promote IYCF practices// by 2020 federal, state and LGAs level agencies has IYCF communi-cation programme// by 2020 80% of decision-makers at Federal /state and LGA levels commit to release resources for IYCF SBCC programme	N	-

Policy	Year Policy Start	Year Policy Ends	Indicadtor / topic	Mentioned in policy narrative (Y/N)	Included in M&E Section (Y/N)	Specific Indicator from M&E framework (If applicable)	Target specified for indicator in objectives or M&E section	Data source for indicator explicit? (Y, N, General)	Data source(s) for indicators
			Human resources: Traditional birth attendant promoting IYCF practices	Y	Y	percent of traditional birth attendants at states/LGA/ community levels support mothers, including those in special circumstances to practice early IBF, EBF, and CF	80% of traditional birth attendants at states/ LGA/ community levels support mothers, including those in special circumstances to practice early IBF, EBF, and CF by 2020	N	-
			Human resources: Community volunteers	Y	Y	percent IYFC community volunteers work more efficiently to raise the IYCF compliance rate	80% of IYFC community volunteers work more efficiently to raise the IYCF compliance rate by 2020	N	-
			Nutrition budget	Y	Y	N	by 2020 80% of decision-makers at the federal/state and LGA levels commit to release resources for IYCF SBCC programme	N	-
National Policy on Food and Nutrition in Nigeria	2016	2025	U5 stunting	Y	N	-	-	General	food and nutrition information system, NDHS, MICS, Smart survey
			U5 wasting	Y	N	-	-	General	
			U5 underweight	Y	N	-	-	General	
			Adolescent undernutrition	Y	N	-	-	General	
			Women's undernutrition	Y	N	-	-	General	
			Overweight and obesity (women)	Y	N	-	-	General	
			Diet-related NCDs	Y	N	-	-	General	
			Micronutrient deficiency (vitamin A)	Y	N	-	-	General	
			Micronutrient deficiency (iodine)	Y	N	-	-	General	
			Micronutrient deficiency (iron)	Y	N	-	-	General	
			Women anaemia	Y	N	-	-	General	

Policy	Year Policy Start	Year Policy Ends	Indicadtor / topic	Mentioned in policy narrative (Y/N)	Included in M&E Section (Y/N)	Specific Indicator from M&E framework (If applicable)	Target specified for indicator in objectives or M&E section	Data source for indicator explicit? (Y, N, General)	Data source(s) for indicators
			Exclusive breastfeeding	Y	N	-	-	General	
			Early initiation of breastfeeding (within one hour)	Y	N	-	-	General	
			IYCF practices	Y	N	-	-	General	
			Nutrition knowledge	Y	N	-	-	General	
			Dietary intake	Y	N	-	-	General	
			Food security	Y	N	-	-	General	
			Access to health care	Y	N	-	-	General	
			Unhealthy environment	Y	N	-	-	General	
			Strengthen M&E for food and nutrition programme	Y	N	-	-	General	
			Early warning system of food and nutrition situation	Y	N	-	-	General	
National Strategic Plan of Action on Food and Nutrition in Nigeria (NSPAN II)	2021	2025							
National Multisectoral Action for Food and Nutrition	2021	2025	U5 stunting	Y	N	-	increase optimal nutrition in the first 1000 days of life by 40% by 2023	General	Baseline data: NNHS 2018, MICS 2016/17 Mid- term evaluation: MICS 2023, NNHS 2023; proposed National Food Consumption and Nutrition Survey End-term evaluation: NDHS 2023; NNHS 2025
			U5 wasting	Y	N	-		General	
			U5 underweight	Y	N	-		General	
			U5 overweight	Y	N	-	No increase in obesity prevalence	General	
			Adolescent undernutrition	Y	N	-	-	General	
			Women's undernutrition	Y	N	-	N	General	
			Obesity (adolescents)	Y	Y	obesity prevalence in adolescents	arrest the emerging increase in obesity	General	
			Women's overweight and obesity	Y	Y	obesity prevalence in women	arrest the emerging increase in obesity	General	
			Obesity (adults)	Y	Y	obesity prevalence in adults	arrest the emerging increase in obesity	General	

Policy	Year Policy Start	Year Policy Ends	Indicadtor / topic	Mentioned in policy narrative (Y/N)	Included in M&E Section (Y/N)	Specific Indicator from M&E framework (If applicable)	Target specified for indicator in objectives or M&E section	Data source for indicator explicit? (Y, N, General)	Data source(s) for indicators
			Micronutrient deficiencies: Vitamin A	Y	N	-	-	General	
			Micronutrient deficiencies: Iron	Y	N	-	-	General	
			Micronutrient deficiencies: Iodine	Y	N	-	-	General	
			Micronutrient deficiency: Zinc	Y	N	-	-	General	
			Exclusive breastfeeding	Y	N	-	-	General	
			Dietary diversity	Y	N	-	-	General	
			Food security	Y	N	-	reduce the proportion of people who suffer hunger and malnutrition by 50% by 2025	General	
			Antenatal care	N	Y	ANC attendance	N	General	
			MIYCN counselling	N	Y	Pregnant and lactating women received counselling during ANC	N	General	
			Vitamin A supplementation	Y	Y	children that receive Vitamin A	N	General	
			Iron and folic acid supplementation	Y	Y	pregnant women that receive 90+ iron foliate tablets per pregnancy	N	General	
			Nutrition commodities	Y	N	-	-	General	
			Training in nutrition topics	Y	Y	health facilities that provide IEC materials/ awareness and nutrition activities, especially on diet-related NCDs and WASH	increased awareness and nutrition activities, especially diet-related NCDs and WASH/ increased knowledge and use of functional traditional food diets and under-utilized foods/ promote awareness of good dietary habits and healthy lifestyles	General	

Policy	Year Policy Start	Year Policy Ends	Indicadtor / topic	Mentioned in policy narrative (Y/N)	Included in M&E Section (Y/N)	Specific Indicator from M&E framework (If applicable)	Target specified for indicator in objectives or M&E section	Data source for indicator explicit? (Y, N, General)	Data source(s) for indicators
Task-Shifting and Task-Sharing policy for essential health care services in Nigeria	2014	no end date	Anaemia – women	Y	N	-	-	N	-
			Anaemia – children	Y	N	-	-	N	-
			U5 childhood illness (dehydration, diarrhoea, malnutrition, pneumonia)	Y	N	-	-	N	-
			U5 children with pneumonia	Y	N	-	-	N	-
			Maternal nutrition	Y	N	-	-	N	-
			Diet-related NCDs	Y	N	-	-	N	-
			Exclusive breastfeeding	Y	N	-	-	N	-
			Early initiation of breastfeeding	Y	N	-	-	N	-
			MIYCN counselling	Y	N	-	-	N	-
			Health service use	Y	N	-	-	N	-
			Skilled birth attendant	Y	N	-	-	N	-
			Antenatal care	Y	N	-	-	N	-
			Iron and folic supplementation	Y	N	-	-	N	-
			Deworming for pregnant women	Y	N	-	-	N	-
			ORZ and Zinc to treat diarrhoea	Y	N	-	-	N	-
			Human resources for health	Y	N	-	-	N	-
			Health policy	Y	N	-	-	N	-
			Health policy	Y	N	-	-	N	-
National Strategic Plan of Action on prevention and control of non-communicable diseases	2015	no end date	Diabetes mellitus	Y	N	-	-	N	-
			Hypertension	Y	N	-	-	N	-
			Intake of salt	Y	N	-	-	N	-
			Unhealthy diet	Y	N	-	-	N	-
			Alcohol consumption	Y	N	-	-	N	-
			Physical activity	Y	N	-	-	N	-

Policy	Year Policy Start	Year Policy Ends	Indicadtor / topic	Mentioned in policy narrative (Y/N)	Included in M&E Section (Y/N)	Specific Indicator from M&E framework (If applicable)	Target specified for indicator in objectives or M&E section	Data source for indicator explicit? (Y, N, General)	Data source(s) for indicators
			Advocacy efforts for NCD control	Y	Y	number of awareness programmes carried out	-	N	-
			Governance, multisectoral action, and partnership for NCD	Y	N	-	-	N	-
National Health Policy "Promoting the Health of Nigerians to Accelerate Socio-economic Development"	2016	2020	U5 stunting	Y	Y	-	no information	General	DHIS2 and special survey
			U5 wasting	Y	N	-	no information		
			U5 underweight	Y	N	-	no information		
			NCD	Y	N	-	no information		
			Birth in health facility	Y	N	-	no information		
			Childhood illness: Diarrhoea, pneumonia, malaria	Y	N	-	no information		
			ANC	Y	N	-	no information		
National Child Health Policy	2017	no end date	U5 stunting	Y	Y	prevalence of stunting in children <5y	no information	N	no information
			U5 wasting	Y	Y	prevalence of wasting in children <5y	no information	N	no information
			U5 underweight	Y	Y	prevalence of underweight in children <5y	no information	N	no information
			Low birth weight	N	Y	proportion of children who are of low birth weight	no information	N	no information
			Nutrition of school-age children	Y	N				
			Childhood illness: Diarrhoea, pneumonia, malaria	Y	N		no information	N	no information
			Exclusive breastfeeding	Y	Y	percentage of children under six months old who are exclusively breastfed	no information	N	no information

Policy	Year Policy Start	Year Policy Ends	Indicadtor / topic	Mentioned in policy narrative (Y/N)	Included in M&E Section (Y/N)	Specific Indicator from M&E framework (If applicable)	Target specified for indicator in objectives or M&E section	Data source for indicator explicit? (Y, N, General)	Data source(s) for indicators
			Early initiation of breastfeeding	N	Y	proportion of mothers who initiate breastfeeding within 30 minutes after birth	no information	N	no information
			Vitamin A	N	Y	proportion of states providing Vitamin A supplements to children 6-59 months twice a year	no information	N	no information
			School feeding	Y	Y	proportion of states supporting and promoting school feeding initiatives (including school gardens) to provide one balanced meal for the school-aged child every day	no information	N	no information
			Policies and plans	Y	Y	proportion of states implementing the National Guidelines on IYCF	no information	N	no information
National Reproductive Health Policy	2017	no end date	Child morbidity	Y	N	-	-	General	1. Population census data 2. NDHS Report 3. MICS 3. NISH Report 4. Report of organized research at community level 5. Sentinel survey 6. DHIS 2 7. Malaria Indicator Survey 8. Maternal and Perinatal Death Surveillance and Response surveillance system

Policy	Year Policy Start	Year Policy Ends	Indicadtor / topic	Mentioned in policy narrative (Y/N)	Included in M&E Section (Y/N)	Specific Indicator from M&E framework (If applicable)	Target specified for indicator in objectives or M&E section	Data source for indicator explicit? (Y, N, General)	Data source(s) for indicators
									9. Approved annual budget and implementation audit 10. NARHS Report 11. MPDSR
			Adolescent nutrition	Y	Y	proportion of young people with adequate nutrition	reduce the proportion of young people with nutritional problems by 75% by 2021	General	1. Needs Assessment Report 2. NDHS Report 3. MICS 4. NISH Report 5. Report of organized research at community level 6. NARHS 7. Advocacy Report 8. Training Report of Integrated Services
			Early initiation of breastfeeding	N	Y	newborns breastfeed within 1 hour of birth	achieve at least 80% of newborns breastfeeding within 1 hour of birth by 2021	General	1. Population census data 2. NDHS Report 3. MICS 3. NISH Report 4. Report of organized research at community level 5. Sentinel survey 6. DHIS 2 7. Malaria Indicator Survey 8. Maternal and Perinatal Death Surveillance and Response surveillance system 9. Approved annual budget and implementation audit 10. NARHS report 11. MPDSR
			Antenatal care	Y	Y	proportion of women attending at least 8 ANC visits during the last pregnancy	at least 80% of pregnant women attending at least 4 ANC visits in a particular pregnancy by 2021	General	
			Intermittent preventive treatment	N	Y	proportion of women receiving at least two doses of IPTp	increase proportion of pregnant women receiving intermittent preventive treatment by 50%, from 23% in 2013 to 35% by 2021	General	
			Sleeping under a LLIN during pregnancy	Y	Y	proportion of pregnant women who slept under an insecticide-treated net during the previous night	at least 80% of pregnant women who slept under an insecticide-treated net during the previous night by 2021	General	
			Iron folic acid supplementation	N	Y	proportion of women receiving iron tablets for 90 days during their last pregnancy	increase proportion of women receiving iron tablets for 90 days during their last pregnancy by 50%, from 21% in 2013 to 32% in 2021		

Policy	Year Policy Start	Year Policy Ends	Indicadtor / topic	Mentioned in policy narrative (Y/N)	Included in M&E Section (Y/N)	Specific Indicator from M&E framework (If applicable)	Target specified for indicator in objectives or M&E section	Data source for indicator explicit? (Y, N, General)	Data source(s) for indicators
			Birth in health facility	N	Y	proportion of births taking place in health facility	increase proportion of births taking place in a health facility by 50%, from 36% in 2013 to 54% by 2021	General	
			Birth by skilled workers	Y	Y	proportion of pregnant women delivered by skilled birth attendants	Increase proportion of pregnant women delivered by skilled workers by 50%, from 38% in 2013 to 57% in 2021	Y but not explicitly per indicator it is by objective	
			Commodities	N	Y	proportion of service delivery points adequately stocked with UN lifesaving maternal commodities	-	General	
			Health infrastructure	N	Y	facilities providing basic essential obstetric and newborn care	at least 80% of facilities providing basic essential obstetric and newborn care per 500,000 population by 2021/	General	1. Needs Assessment Report 2. NDHS Report 3. MICS 4. NISH Report 5. Report of organized research at community level 6. NARHS 7. Advocacy Report 8. Training Report. 9.National guidelines on integration at state level 10. Report of implementation 11. Training Report 12. Records of integrated services
			Quality of care: Trained health workers	N	Y	proportion of facilities nationwide having health care providers trained on the integration of services	-		
			Human resources: Competence	N	Y	proportion of wards with a functional primary health care centre staffed with 100% competent health personnel	achieve 100% staffing of a functional primary health care centre per ward with competent health personnel by 2021 (trained on Life Saving Skills)/ achieve 50% of wards having a functional primary health care centre per ward by 2021	General	

Policy	Year Policy Start	Year Policy Ends	Indicadtor / topic	Mentioned in policy narrative (Y/N)	Included in M&E Section (Y/N)	Specific Indicator from M&E framework (If applicable)	Target specified for indicator in objectives or M&E section	Data source for indicator explicit? (Y, N, General)	Data source(s) for indicators
			Policies and plans	Y	Y	number of states implementing the national guidelines on integration	-	General	
National HIV/ AIDS Strategic Framework	2017	2021	Antenatal care	Y	N		no information	General	DHIS2
			Delivery in health facility	Y	N		no information	General	DHIS2
			Skilled birth attendant	Y	N		no information	General	DHIS2
			Exclusive breastfeeding	Y	N		no information	General	DHIS2
Second National Strategic Health Development Plan	2018	2022	hypertension	Y	N		no information	General	data for tracking and evaluating NSHDP II implementation will be drawn from administrative system and programme reports, facility assessments, and population-based surveys
			Food insecurity	Y	N	-	-		
			Health infrastructure	Y	Y	% of wards in the country with at least one fully functional PHC centre providing compre-hensive primary health			
			care services in line with the EPHS/	no information					
			Health infrastructure	Y	Y	% of the LGAs that have functional general hospitals for referral from PHCs	no information		
			Quality of care: Trained health workers	Y	N	-	-		
			Commodities	Y	Y	% of health facilities that report stock out of anti-malarial commodities, diagnostic kits lasting more than one week in the past three months	no information		
			Integrated and sustainable health information system	Y	N		no information		

Policy	Year Policy Start	Year Policy Ends	Indicadtor / topic	Mentioned in policy narrative (Y/N)	Included in M&E Section (Y/N)	Specific Indicator from M&E framework (If applicable)	Target specified for indicator in objectives or M&E section	Data source for indicator explicit? (Y, N, General)	Data source(s) for indicators
			Low birth weight	Y			Decrease incidence of low birth weight		
			Antenatal care	N	Y	proportion of women having essential ANC (at least one visit, at least 8 visits)	no information		
			U5 malaria	N	Y	prevalence of malaria in U5 children	no information		
			Acute malnutrition	N	Y	prevalence acute malnutrition in children 0-59m	no information		
			U5 wasting	N	Y		Decrease prevalence of childhood wasting by 10%		
			U5 stunting	N	Y	prevalence of stunting in children 0-59m	Decrease prevalence of stunting by 20%		
			U5 overweight and obesity	Y			60%; % reduction in childhood overweight		
			U5 mortality	N	Y		no information		
			Maternal mortality	N	Y		no information		
			Data	N	Y	% of all health facilities (public and private) generating and transmitting routine NHMIS data by 2022	no information		
			Exclusive breastfeeding	Y	Y	children <6m exclusively breastfed	increase in exclusive breastfeeding rate in first 6m		
			Skilled birth attendant	N	Y	% deliveries supervised by skilled birth attendants	no information		

Policy	Year Policy Start	Year Policy Ends	Indicadtor / topic	Mentioned in policy narrative (Y/N)	Included in M&E Section (Y/N)	Specific Indicator from M&E framework (If applicable)	Target specified for indicator in objectives or M&E section	Data source for indicator explicit? (Y, N, General)	Data source(s) for indicators
National Health Promotion Policy	2019	no end date	NCD	Y	N	-	-	General	routine reporting system; national survey of health promotion programmes
			Healthy behaviour, healthy lifestyle	Y	N	-	-		
			Poor sanitation	Y	N	-	-		
			Overweight	N	Y	prevalence overweight/ obesity among adults	N	Y	STEP wise survey
			Blood pressure	N	Y	prevalence raised blood pressure among adults	N	Y	
			Blood glucose, diabetes	N	Y	prevalence raised blood glucose/ diabetes among adult	N	Y	
			Unhealthy diet	Y	Y	mean population intake of salt in persons aged 18+ years	N	Y	
			Physical inactivity	Y	Y	prevalence of insufficiently physically active adults	N	Y	
			ANC education	Y	N	-	-	N	no information

Appendix 7: Detailed Summary of Availability of Nutrition Indicators by Data Source in Nigeria

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
Nutritional Status: Anthropometry	Underweight	Weight-for-age z-score below –2 standard deviations (SD) from the median of the WHO reference population. Severely underweight = below –3 SD			X	X	X	X		
		Population			C 0-59m	C 0-59m	C 0-59m	C 6-59m		
	Wasting	Weight-for-height z -score below –2 SD from the median of the WHO reference population Severely wasted = below –3 SD Reflects acute malnutrition			X	X	X	X		
		Population			C 0-59m	C 0-59m	C 0-59m	C 6-59m		
	Acute malnutrition	Weight-for-height z-score below –2 SD from the median of WHO reference and/or presence of bilateral edema and/or presence of edema OR mid-upper arm circumference (MUAC) <125 mm		X (NGMP register)			X			
		Population		C 0-59m			C 6-59m			
	Overweight	Weight-for-height z-score above +2 SD from the median of the WHO reference population			X	X	X	X		
		population			C 0-59m	C 0-59m	C 0-59m	C 6-59m		
	MUAC screening	Measure of children's middle-upper arm circumference (red, yellow, or green)		X						
		population		C 6-59m						
	Low birth weight	Birth weight <2.5 kg OR mother's estimate of birthweight was "very small" or "smaller than average"			X					
		population			Births last 5y					

33 Population acronyms: C, children; W, women; G girls; P, pregnant; NP non-pregnant; BF, breastfed; HH, household; HF, health facility

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
		Birth weight <2,500 grams	X	X (Labour & Delivery register)		X				
		population	births at HF	births at HF		Births last 2y				
	Preterm birth	Total number of deliveries of babies born before the 37th week of gestation that took place in the health facility	X	X (Labour & Delivery register)						
		Population	births at HF	births at HF						
	Adolescent nutritional status	BMI-for-age-Z-score						X		
		Population						NPG 10-19y		
	Women's underweight	BMI = kilograms/meters squared Underweight = BMI <18.5			X			X		
		Population			W 15-49y			W 15-49y		
	Adult female short stature	Females, height below 145 cm			X					
		Population			W 15-49y					
	Women's acute malnutrition	Acutely malnourished, MUAC < 221mm; Moderately malnourished = MUAC 214-221mm; severely malnourished = MUAC <214mm					X			
		Population					W 15-49y			
	Women's overweight	Women with BMI > =25			X			X		
		Population			NPW 15-49y			NPW 15-49y		
	Women's obesity	BMI >=30			X			X		
		Population			NPW 15-49y			NPW 15-49y		

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
	BMI category	Body mass index of individuals presenting at outpatient services (male/female)		X						
		Population		All 12y+						
Nutritional Status: Micronutrient Status	Child anemia	Hemoglobin < 11.0 g/dL			X			X		
		Population			C 0-59m			C 6-59m		
	Women's anemia	Pregnant women with severe anaemia (Hb is less than 7g/dl or HB/PCV less than 21%)	X	X (ANC register)						
		Population	PW who attend ANC	PW who attend ANC						
		Percentage of women age 15-49 with anaemia (non-pregnant <12.0 g/dl; pregnant <11.0 g/dl)			X			X		
		Population			W 15-49y			a. NPG 10-14y ; b. NPW 15-49y ; c. PW 15-49y		
	Child Vitamin A status (retinol & MRDR)	Marginal deficiency = serum retinol <20 ug/dl Critical deficiency = serum retinol concentration <10 ug/dl						X		
		Population						C 6-69m		
	Women's Vitamin A status (retinol & MRDR)	At risk of vitamin A deficiency = serum retinol <30 ug/dl Vitamin A deficient = serum retinol <20 ug/dl						X		
		Population						a. NPG 10-14y ; b. NPW 15-49y ; c. PW 15-49y		
	Child zinc status	Zinc deficiency = serum zinc <80 ng/ml						X		
		Population						C 6-59m		
	Women's zinc status	Definition not clear from protocol						X		
		Population						a. NPG 10-14y ; b. NPW 15-49y ;		

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
	Child's iron status	Iron deficiency, serum ferritin <10 ng/ml Iron store depletion, serum ferritin <20 ng/ml Normal range, 20–100 ng/ml Slightly above normal, 101-300 ng/ml iron overload, >300 ng/ml						X		
		Population						C 6-59m		
	Women's iron status	Iron deficiency, serum ferritin <12 ng/ml Iron store depletion, serum ferritin <20 ng/ml Normal range, 20–100 ng/ml Slightly above normal, 101–300 ng/ml iron overload, >300 ng/ml						X		
		Population						a. NPG 10-14y ; b. NPW 15-49y ; c. PW 15-49y		
	Women's iodine status	Definition not clear from protocol						X		
		Population						a. NPG 10-14y ; b. NPW 15-49y ;		
	Women's Vitamin B1 deficiency	Definition not clear from protocol						X		
		Population						NPW 15-49y		
	Women's Vitamin B2 deficiency	Definition not clear from protocol						X		
		Population						NPW 15-49y		
	Child's Vitamin B12 deficiency	Definition not clear from protocol						X		
		Population						C 6-59m		
	Women's Vitamin B12 deficiency	Definition not clear from protocol						X		
		Population						a. NPG 10-14y ; b. NPW 15-49y ; c. PW 15-49y		

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
	Women's folate deficiency (serum & red blood cell)	Definition not clear from protocol						X		
		Population						a. NPG 10-14y ; b. NPW 15-49y ; c. PW 15-49y		
Drivers of anaemia	Malaria (child)	Definition not clear from protocol	X	X				X		
		Population	C 0-59m	C 0-59m				C 6-59m		
	Malaria (women)	Definition not clear from protocol	X	X				X		
		Population	PW	PW				a. NPG 10-14y ; b. NPW 15-49y ; c. PW 15-49y		
	Blood disorders (child)	Definition not clear from protocol						X		
		Population						C 6-59m		
	Blood disorders (women)	Definition not clear from protocol						X		
		Population						a. NPG 10-14y ; b. NPW 15-49y ; c. PW 15-49y		
	Helminths (child)	Definition not clear from protocol						X		
		Population						C 6-59m		
	Helminths (women)	Definition not clear from protocol						X		
		Population						a. NPG 10-14y ; b. NPW 15-49y ; c. PW 15-49y		
	Inflammation (child)	Definition not clear from protocol						X		
		Population						C 6-59m		

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
	Inflammation (women)	Definition not clear from protocol						X		
		Population						a. NPG 10-14y ; b. NPW 15-49y ; c. PW 15-49y		
	Helicobacter pylori (child)	Definition not clear from protocol						X		
		Population						C 6-59m		
	Helicobacter pylori (women)	Definition not clear from protocol						X		
		Population						a. NPG 10-14y ; b. NPW 15-49y ; c. PW 15-49y		
Diet-related NCDs	Hypertension	Systolic BP ≥ 140 mm Hg and diastolic BP ≥ 90 mm Hg	X (new suspected cases)	X (OPD register)						
		Population	All 12y+ at outpatient							
	Diabetes	Fasting venous plasma glucose measurement of ≥ 126 mg/dl or capillary glucose 110 mg/dl Or Nonfasting venous plasma glucose measurement of ≥ 200 mg/dl or capillary glucose ≥ 200 mg/d	X	X (OPD register)				X		
		Population	All 12y+ attending services					NPW 15-49y ;		
Diet quality: IYCF	Ever breastfed	Number of children 0–23 months who have been put to the breast, even if only once			X	X	X			
		Population			Births last 2y	Births last 2y	C 0-23m			
		Number of children 6–23 months who have been put to the breast, even if only once						X		
		Population						Births last 2y		

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
	Currently breastfed	Children who received milk during the previous day or night						X		
		Population						C 6-23m		
	Early initiation of breastfeeding	Child breastfed within 1 hour of birth	X	X (Labour & Delivery register)	X	X	X			
		Population	Births at health facility	Births at health facility	Births last 2y	Births last 2y	C 0-23m			
	Age-appropriate breastfeeding	For 0-5 months: exclusive breastfeeding; 6-23m :receiving breastmilk and complementary feeding		X (NGMP register)	X	X	X			
		Population		C 0-23m at health facility	last born C < 24m living with mother	C 0-23m	C 0-23m			
	Continued breastfeeding at 1 year	children 12-15 months who received breastmilk the previous day			X	X	X	X		
		Population			last born children < 2y living with their mothers	C 12-15 m	C 12-15 m	C 12-15 m		
	Continued breastfeeding at 2 years	child is still breastfed at 2			X	X	X	X		
		Population			last born C < 24m living with mother	C 20-23 m	C 20-23 m	C 20-23 m		
	Bottle feeding	Children 0-23 months fed from a bottle with a nipple for feeding during the previous day			X	X	X			
		Population			last born C < 24m living with mother	C 0-23m	C 0-23m			
		Children 6-23 months fed from a bottle with a nipple for feeding during the previous day						X		
		Population						C 6-23m		

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
	Prelacteal feed	Children given something other than breastmilk during the first 3 days of life			X					
		Population			Births last 2y					
	Exclusive breastfeeding	Total number of children <6mo months that attended the health facility in the month and were reported to be exclusively breastfed	X	X (NGMP register)						
		Population	C 0-5m visiting facility	C 0-5m visiting facility						
		Proportion of infants 0-5 months of age who are fed exclusively with breastmilk			X	X	X			
		Population			last born C 0-5m	C 0-5m	C 0-5m			
	Introduction of complementary feeding	consuming solid, semisolid, or soft foods at 6-8 months			X	X	X	X		
		Population			last born C 6-8 m living with mother	C 6-8m	C 6-8m	C 6-8m		
	Nutrient density of the complementary diet	Nutrients per 100 kilocalories in the diets of breastfed infants and young children						X		
		Population						BFC 6-23m		
	Minimum diet diversity	Feeding the child food from at least four food groups (5 food groups for DHS 2018). Non-breastfed children should receive milk products at least twice per day to ensure calcium needs are met. NNHS-specific: For non-breastfed children, diet diversity is calculated by using six food groups (excluding dairy products) at least four times per day and milk-related products at least two times per day.			X	X	X			
		Population			C 6-23m	C 6-23m	C 6-23m			

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
	Minimum meal frequency	Breastfed infants 6–8 months should be fed meals of complementary foods 2–3 times per day, with 1–2 snacks as desired. Breastfed children 9 –23 months should be fed meals 3 – 4 times per day, with 1 –2 snacks. Non-breastfed children 6 –23 months should be fed meals 4 – 5 times per day with 1 –2 snacks as desired. Meal frequency is considered a proxy for energy intake from foods other than breast milk			X	X	X			
		Population			C 6-23m	C 6-23m	C 6-23m			
	Minimum acceptable diet	Measure of child who had minimum dietary diversity and minimum meal frequency during the previous day.			X	X	X			
		Population			C 6-23m	C 6-23m	C 6-23m			
	Minimum milk feeding	percentage of non-breastfed children who received at least two milk feeds during the previous day					X	X		
		Population					C 6-23m	C 6-23m		
	Predominant breastfeeding under six months	children under six months of age who received breast milk as the predominant source of nourishment during the previous day			X	X	X			
		Population			C 0-5m	C 0-5m	C 0-5m			
	Child dietary intake	Foods and liquids consumed by children			X (2013, 2018)					
		Population			last born C 0-23 m living with mother					

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
	Child consumed foods rich in Vitamin A	Consumed Vitamin A-rich foods in the 24 hours preceding the survey. Includes meat (and organ meat), fish, poultry, eggs, pumpkin, red or yellow yams or squash, carrots, red sweet potatoes, dark green leafy vegetables, mango, papaya, and other locally grown fruits and vegetables rich in Vitamin A, and red palm nuts			X					
		Population			youngest C 6-23 m living with mother					
	Child consumed foods rich in iron	Consumed meat (and organ meat), fish, poultry, and/or eggs in the previous 24 hours			X		X			
		Population			youngest C 6-23 m living with mother		C 6-23m			
	Egg and/ or flesh food consumption	Percentage of children who consumed egg and/or flesh food during the previous day			X			X		
		Population			youngest C 6-23 m living with mother			C 6-23m		
	Sweet beverage consumption	Percentage of children who consumed a sweet beverage during the previous day			X			X		
		Population			youngest C 6-23 m living with mother			C 6-23m		

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
	Unhealthy food consumption	Percentage of children who c onsumed selected sentinel unhealthy foods during the previous day			X			X		
		Population			youngest C 6-23 m living with mother			C 6-23m		
	Zero vegetable or fruit consumption	Percentage of children who did not consume any vegetables or fruits during the previous day			X			X		
		Population			youngest C 6-23 m living with mother			C 6-23m		
	Women's dietary diversity	Women who consumed at least five of the ten possible food groups in the 24 hours preceding the survey			X					
		Population			W 15-49y					
Diet quality: Nutrient intake	Dietary intake	Usual intake of energy (mean, median, and quantiles)						X		
		Population						a. W 15-49y; b. C 6-23m; c. C 24-59m		
	Macronutrient intake	Usual intake of macronutrients (protein, animal-sourced protein, plant source protein, fats, and carbohydrates)						X		
		Population						a. W 15-49y; b. C 6-23m; c. C 24-59m		
	Macronutrient intake	Usual intake of selected micronutrients (iron, zinc, calcium, Vitamin B12, folate, Vitamin A, thiamin, riboflavin, Vitamin C, etc.)						X		
		Population						a. W 15-49y; b. C 6-23m; c. C 24-59m		

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
	Energy from macronutrients	Contribution of macronutrients (protein, animal-sourced protein, plant source protein, fats, and carbohydrates) to total energy intake						X		
		Population						a. W 15-49y; b. C 6-23m; c. C 24-59m		
	Inadequate nutrition intake	Percent at risk for inadequate nutrient intake						X		
		Population						a. W 15-49y; b. C 6-23m; c. C 24-59m		
	Intake of biofortified foods	Usual intake of the biofortified foods in raw form (orange maize, orange sweet potato, yellow cassava)						X		
		Population						a. W 15-49y; b. C 6-23m; c. C 24-59m		
	Energy from biofortified foods	Contribution of biofortified foods to total energy intake						X		
		Population						a. W 15-49y; b. C 6-23m; c. C 24-59m		
	Nutrients from biofortified foods	Contribution of biofortified foods to total nutrient intake						X		
		Population						a. W 15-49y; b. C 6-23m; c. C 24-59m		
	Food vehicle intake	Usual intake of food vehicle						X		
		Population						a. W 15-49y; b. C 6-23m; c. C 24-59m		
	Energy from food vehicles	Contribution of food vehicle to total energy intake						X		
		Population						a. W 15-49y; b. C 6-23m; c. C 24-59m		

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
	Fortified food intake	Usual intake of the fortified food (e.g., mean/ median or another percentile)						X		
		Population						a. W 15-49y; b. C 6-23m; c. C 24-59m		
	Energy from fortified food	Contribution of the fortified food to total energy intake						X		
		Population						a. W 15-49y; b. C 6-23m; c. C 24-59m		
	Nutrients from fortified food	Contribution of the fortified food to total nutrient intake (iron, vitamin A)						X		
		Population						a. W 15-49y; b. C 6-23m; c. C 24-59m		
	Consumption of biofortified foods in last 30 days	Proportion of respondents who consumed biofortified foods (orange maize, orange sweet potato, yellow cassava) in the last 30 days						X		
		Population						a. W 15-49y; b. C 6-23m; c. C 24-59m		
	Consumption of biofortified foods at least once in last 30 days	Proportion of respondents who consumed biofortified foods (orange maize, orange sweet potato, yellow cassava) at least once a day in the last 30 days						X		
		Population						a. W 15-49y; b. C 6-23m; c. C 24-59m		

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
Diet quality: Fortified food indicators	Households consuming food vehicle	Proportion of households with a WRA aged 15–49y that consume a food vehicle (salt, sugar, wheat flour, and semolina)						X		
		Population						Subsample 25% of HH with W 15-49y		
	Households consuming a fortifiable food vehicle	Proportion of households with a WRA aged 15-49y that consume a 'fortifiable' food vehicle (salt, sugar, wheat flour, and semolina)						X		
		Population						Subsample 25% of HH with W 15-49y		
	Households consuming a fortified food at any level	Proportion of households with a WRA aged 15-49y that consume a fortified food, at any level of fortification (salt, sugar, wheat flour, and semolina)						X		
		Population						Subsample 25% of HH with W 15-49y		
	Households consuming the food fortified at minimum standard	Proportion of households with a WRA aged 15-49y that consume the food fortified at minimum standard (salt, sugar, wheat flour, and semolina)						X		
		Population						Subsample 25% of HH with W 15-49y		
Household Food Security	Food Insecurity Experience Scale (FIES)	Scale of the experience of household food insecurity						X		
		Population						All HH		

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
	Food availability in past 7 days	% of households with reduced # of meals								LSMS-ISA
		Population								households
		Household reporting food inadequacy								
		Population								
	Food shortage in the last year	% of households with any food shortage last 12 m								LSMS-ISA
		Population								households
	Food shortage in the last year	Incidence of food shortage in the 12 months preceding household visit								LSMS-ISA
		Population								households
	Percentage of household reporting shocks	Type of household shocks by region, place of residence								LSMS-ISA; NLSS
		Population								households
	Coping mechanism of households that experienced shock	Coping mechanism in percent of households reporting any shock						X		NLSS
		Population						All HH		households
	Food shortage in 30 days	Percent of household reporting experience of food shortage for the 30 days preceding household visits								LSMS-ISA
		Population								households

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
Intervention coverage: Non-pregnant women or adolescents	Preventive iron supplementation	Use of iron-containing supplements in the last 6 months						X		
		Population						G 10-14y		
	Preventive iron supplementation	Use of iron-containing supplements in the last 7 days						X		
		Population						G 10-14y		
Intervention Coverage: Pregnancy	ANC: Total visits in a month	Total number of pregnant women that attended the health facility for antenatal care services in the month	X	X (ANC register)						
		Population	PW at ANC	PW at ANC						
	ANC: First visit	Total number of pregnant women that attended the health facility for ANC services in the month that were attending for the first time	X	X (ANC register)						
		Population	PW at ANC	PW at ANC						
	ANC: 4th visit	Total number of pregnant women that attended the health facility for ANC services in the month that were attending for the fourth visit	X	X (ANC register)						
		Population	PW at ANC	PW at ANC						
	ANC: 8th visit	Total number of pregnant women that attended the health facility for ANC services in the month that were attending for the eighth visit	X	X (ANC register)						
		Population	PW at ANC	PW at ANC						
	ANC: At least 1 visit	women who had at least 1 ANC visit during their last pregnancy				X	X	X		
		Population				W 15-49y w live birth past 2 y	W 15-49y w live birth past 2 y	PW 15-49y		

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
	ANC: At least 4 visits	women who had at least 4 ANC visits during their last pregnancy			X	X	X			
		Population			W 15-49y w live birth past 5 y	W 15-49y w live birth past 2 y	W 15-49y w live birth past 2 y			
	ANC: At least 8 visits	women who had at least 8 ANC visits during their last pregnancy				X				
		Population				W 15-49y w live birth past 2 y				
	ANC: Timing of the first ANC visit	number of months pregnant at time of first ANC visit			X	X		X		
		Population			W 15-49y w live birth past 5 y	W 15-49y w live birth past 2 y		PW 15-49y		
	ANC: Skilled provider	Pregnant women who received ANC from a skilled provider at least once			X	X	X			
		Population			W 15-49y w live birth past 5 y	W 15-49y w live birth past 2 y	W 15-49y w live birth past 2 y			
	ANC: Received Long-Lasting Insecticidal Net (LLIN) during ANC visit	Total number of pregnant women who received long-lasting insecticidal net (LLIN) for the prevention of malaria in the health facility in the month	X	X (ANC register)						
		Population	PW at ANC	PW at ANC						
	Use of mosquito net during pregnancy	Pregnant women who slept under an insecticide-treated net the night before the survey			X	X				
		Population			PW 15-49y	W 15-49y				

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
	Intermittent preventive treatment of malaria (IPTp)	Women who received IPTp during pregnancy	X	X (ANC register)	X	X	X	X		
		Population	PW at ANC	PW at ANC	W 15-49y w live birth past 2 y	W 15-49y w live birth past 2 y	W 15-49y w live birth past 2 y			
	Iron-folic acid supplementation	Total number of pregnant women who received IFAs in the health facility in the month	X	X (ANC register)				X (ever received or purchased during this pregnancy		
		Population	PW at ANC	PW at ANC				Pregnant WRA		
		Women who took iron and/or folic acid for 90 or more days (tablets or syrup) during pregnancy			X		X	X (last 7 days & day prior to survey)		
		Population			W 15-49y w live birth past 5 y		W 15-49y w live birth past 2 y	PW 15-49y		
	Multiple micronutrient supplementat-ion	Women who consumed MMS the day before survey						X		
		Population						PW 15-49y		
	Calcium supplementation	Women who consumed calcium supplements the day before survey						X		
		Population						W 15-49y		
	Women's deworming	Took deworming medication during their last pregnancy			X					
		Population			W 15-49y w live birth past 5 y					
	Received counselling on maternal nutrition during ANC/ pregnancy	Total number of pregnant women that attended the health facility for ante-natal care services in the month that were counselled on maternal nutrition	X	X (ANC, NGMP, & PNC register)						
		Population	PW at ANC	PW at ANC						

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
		Women who received counselling about breastfeeding and maternal, infant, and young child nutrition during pregnancy			X (in new DHS-8)			X		
		Population			W 15-49y w live birth past 5 y			PW 15-49y		
Intervention Coverage: Delivery & Post-natal care	Delivered by skilled attendant	Total number of deliveries taken by skilled birth attendants	X	X (Labour & Delivery register)						
		Population	Deliveries at facility	Deliveries at facility						
		Women who were attended by skilled health personnel during their most recent live birth			X	X	X			
		Population			W 15-49y w live birth past 5 y	W 15-49y w live birth past 2 y	W 15-49y w live birth past 2 y			
	Newborn care: Delayed clamping (after 1 minute)	Total number of newborns at time of cord clamping was recorded at 1-3 minutes or more after birth	X	X (Labour and delivery register)						
		Population	Deliveries at facility	Deliveries at facility						
	Breastfeeding counselling & support during PNC	Women who received counselling on breastfeeding during the first 2 days after birth			X	X				
		Population			W 15-49y w live birth past 2 y	W 15-49y w live birth past 2 y				
Intervention coverage: Child malnutrition prevention & growth promotion	Vitamin A supplementation	Number of children (6-23 months) given Vitamin A in the health facility the month	X	X (GMP & immunization register)						
		Population	C 6-59m at NGMP and/or EPI (definition not clear in manual)	C 6-59m at NGMP and/or EPI (definition not clear in manual)						

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
		Child received Vitamin A supplements in the past six months			X		X	X		
		Population			C 6-59m		C 6-59m	C 6-59m		
	Deworming	Total number of children 12-59mo that received deworming medication in the health facility in the reporting month	X	X (NGMP register)						
		Population	C 12-59m at visit	C 12-59m at visit						
		Child given deworming medication in last 6m			X		X	X		
		Population			C 6-59m		C 6-59m	C 6-59m		
	Micronutrient powder (MNP) supplementation	Total number of children who received Micronutrient Powder (MNP) during visit	X	X (NGMP register)						
		Population	C 6-23 m at visit	C 6-23 m at visit						
		Children 6-23 months who received Micronutrient Powder (MNP) supplements in the past 6 months						X		
		Population						C 6-59m		
		Children 6-23 months who consumed Micronutrient Powder (MNP) supplements the day before survey						X		
		Population						C 6-59m		
	Iron supplementation	Iron supplements taken in the 7 days preceding the survey			X					
		Population			C 6-59m					

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
	Children received ITN	Total number of children who received ITN in the health facility in the month	X	X (Immunization register)						
		Population	C 0-59m at visit	C 0-59m at visit						
	Child slept under a net or LLIN	children who slept under an insecticide-treated net the night before the survey			X	X	X			
		Population			C 6-59m	C 6-59m	C 6-59m			
	Child growth monitoring	Total number of children <5y that received Nutrition and GMP services in the health facility in the reporting month	X	X (NGMP register)						
		Population	C 0-59m at visit	C 0-59m at visit						
		Children < 5y whose growth was measured or screened for wasting during the past three months (weight, height, or MUAC)			X					
		Population			C 0-59m					
	GMP: Child growing well	Total number of children <5y that were weighed in the health facility in the month who are growing well according to the growth charts	X	X (NGMP register)						
		Population	C 0-59m at visit	C 0-59m at visit						
	Counselling: Received counselling on infant and young child nutrition	Total number of clients (mothers/ caregivers of children <5y that received any type of counselling during the Nutrition and GMP session on EBF, CF, and WASH for the reporting month	X	X (NGMP register)						
		Population	Caregivers of C 0-59m at visit	Caregivers of C 0-59m at visit						
		Caregiver received any infant and young child feeding counselling in the past 6 months			X (DHS-8 indicator)					
		Population			C 6-23m					

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
	Coverage of Maternal and Child Health Week	Households that live in an area where there was an MNCH week campaign					X			
		Population					HH			
		Households that received some service during MNCH week campaign					X			
		Population					HH			
Intervention Coverage: Child treatment	Diarrhoea	Total number of children <5y that were new cases of diarrhoea in the month	X	X (outpatient register)						
		Population	C 0-59m at visit	C 0-59m at visit						
		Child had diarrhoea in the previous two weeks			X	X	X	X (had diarrhoea yesterday)		
		Population			C 0-59m	C 0-59m	C 0-59m	C 0-59m		
	Care seeking	Children for whom advice or treatment was sought from a health facility or provider			X (fever)	X (fever, diarrhoea , ARI)	X (ARI)			
					C 0-59m with fever last 2 w	C 0-59m with diarrhea last 2 w	C 0-59m with suspected ARI last 2 w			
	Zinc supplementation with ORS to treat diarrhoea	Percent of children who received Zinc and/or ORS packets or prepackaged fluids) to treat diarrhoea	X	X (OPD register)	X	X	X	X		
		Population	C 0-59 with new cases of diarrhoea at visit	C 0-59 with new cases of diarrhoea at visit	C 0-59m with diarrhea last 2 w	C 0-59m with diarrhea last 2 w	C 0-59m with diarrhea last 2 w	C 0-59m		

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
	Feeding practices during diarrhoea	Whether the amount of liquids and foods offered to a child during diarrhoea compared with normal practice			X	X				
		Population			C 0-59m with diarrhea last 2 w	C 0-59m with diarrhea last 2 w				
	SAM Treatment: Admitted for treatment	Total number of children <5y that were admitted for treatment for severe acute malnutrition in the health facility in the reporting month	X	X (NGMP register)						
		Population	C 0-59m at visit	C 0-59m at visit						
	SAM Treatment: Outcome for treatment	Outcomes of treatment for SAM	X	X (NGMP register)						
		Population	C 0-59m at visit	C 0-59m at NGMP						
Intervention Coverage: Household	Iodised salt	Households with iodised salt among those with tested salt			X	X (HH > 0/million iodide. Iodate)				
		Population			HH	HH				
Non-health interventions: Water, sanitation, and hygiene	Improved water source for drinking water	access to an improved source of drinking water (includes piped water, public taps, standpipes, tube wells, boreholes, protected dug wells and springs, rainwater, and water delivered via a tanker truck or a cart with a small tank, and bottled water			X	X		X		WASH-NORM
		Population			HH	HH members		HH		
	Use of basic drinking water sources	Using improved sources of drinking water in their dwelling, yard, plot, or within 30 minutes round trip collection time			X	X		X		WASH-NORM
		Population			HH	HH members		HH		

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
	Water treatment	Those who use an appropriate treatment method for their drinking water			X	X				WASH-NORM
		Population			HH	HH members in HH with un-improved drinking water				
	Quality of drinking water	Those whose drinking water was contaminated by E. coli at the source of the drinking water				X				
		Population				HH members				
	Place for handwashing in household	handwashing facility available in dwelling			X	X				
		Population			HH	HH				
	Availability of soap in handwashing area	Specific place for handwashing where water and soap or detergent are present			X	X				
		Population			HH	HH				
	Availability of soap or other cleansing agent	soap or other cleansing agent available in dwelling				X				
		Population				HH				
	Improved sanitation	Access to improved sanitation facilities (includes flush/pour flush toilets that flush water and waste to a piped sewer system, septic tank, pit latrine, or an unknown destination; ventilated improved pit (VIP) latrines; pit latrines with slabs; or composting toilets)			X	X		X		LSMS-ISA; NLSS; WASH-NORM
		Population			HH	HH members		HH		

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
	Basic sanitation service	Use of improved facilities that are not shared with other households			X	X		X		
		Population			HH	HH members		HH		
	Limited sanitation services	Use of improved facilities shared by two or more households			X			X		
	Open defecation	Uses no facility; bush or field			X	X		X		LSMS-ISA; NLSS; WASH-NORM
		Population			HH	HH members		HH		
	Disposal of faeces of children	Child's last stools were safely disposed (e.g., put or rinsed into a toilet or latrine or buried, or the child used a toilet or latrine)			X	X				
		Population			Youngest C 0-23 m living with mother	C 0-23,				
Non-health interventions: Social Protection	Safety net and assistance	Proportion of household with safety nets and types of assistance received by place of residence								LSMS-ISA
		Population								
Quality of care: Competencies	Diagnostic accuracy of clinical conditions	Percentage of five clinical conditions diagnosed accurately by health workers (acute diarrhoea with severe dehydration, pneumonia and malaria with anaemia, postpartum haemorrhage, and neonatal asphyxia)							X	
		Population							HCP	

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
	Adherence to guidelines	Adherence to guidelines: Percentage of relevant history questions, physical examination adhered to, and overall adherence to protocol on three common childhood diseases, namely acute diarrhoea with dehydration, malaria with anaemia, and pneumonia							X	
		Population							HCP	
	Knowledge of IMCI danger signs and main symptoms	Health workers' knowledge of IMCI danger signs and main symptoms according to PHF type, state, by geopolitical zone							X	
		Population							HCP	
	Knowledge of assessment and treatment of IMCI core disease entities	Percentage of health workers in PHFs with knowledge of assessment and treatment of IMCI core disease (pneumonia, diarrhoea, malaria) by geopolitical zone							X	
		Population							HCP	
	Documentation of Antenatal Care (ANC)	Percentage of clients' ANC records with documentation for key item							X	
		Population							PW at least 32 weeks gestation	
	Documentation of care for under 5 children with suspected malaria	Percentage of children's records with documentation for care process for under 5 children with suspected malaria							X	
		Population							C 0-59 with suspect malaria	

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
Quality of care: Training & Supervision	Health workers with Integrated Management of Childhood Illness (IMCI) training	Proportion of PHF health workers interviewed who had received training in the last two years in Integrated Management of Childhood Illness (IMCI)							X	
		Population							HCP with IMCI training	
	Integrated supportive supervision(ISS) visit	Percentage of primary health facilities that hosted an ISS visit in the three preceding months							X	
		Population							Primary HF	
Infection control	Hand hygiene	Proportion of facilities with hand washing capacity and latex gloves by geopolitical zone							X	
		Population							HF	
Availability of Drugs and Equipment	Availability of drugs and equipment	Average proportion of essential drugs available and unexpired in health facilities (based on the list of National Primary Health Care Development (NPHCDA) geopolitical zone)							X	
		Population							HF	
	Availability of basic medical equipment	Proportion of health facilities with basic medical equipment by geopolitical zone (blood pressure cuff, stethoscope, weighing scale, thermometer, and examination light)							X	
		Population							HF	
Management	Integrated supportive supervision (ISS) with detailed Documentation	Percentage of PHFs who hosted an ISS visit with detailed Documentation in the three preceding months							X	
		Population							Primary HF	

Indicator Type	Indicator	Definition/population[33]	Administrative				Surveys			
			NHMIS	Facility Registers	NDHS	MICS	NNHS	NFCNS	NHFS	Other
	Health Management Information System (HMIS)	Percentage of primary health facilities submitting accurate Health Management Information System information (source data reconciled with summary reports for three months preceding the survey) by geopolitical zone							X	
		Population							Primary HF	

Appendix 8: Summary findings from Stakeholder Interviews and Focus Group Discussions

Methods

DataDENT, NAHI, and the University of Ibadan researchers carried out a total of 71 qualitative key-informant interviews (KII) at federal (n=24), state (n=17), and LGA and health facility (n=30) levels to understand the data needs of nutrition stakeholders in the health sector in Nigeria. Respondents included individuals from the FMOH, FMFBNP, NPHCDA, development partners, state MOH, state primary health care boards, LGA leaders, M&E officers, and health facility staff. We asked each respondent to identify one type of decision they regularly make within their professional role. We then discussed in detail the data they currently use to inform their decisions as well as perceived data gaps. We also conducted focus group discussions (n=8) with community volunteers to understand their role in the collection, reporting, and use of data on community nutrition interventions. Virtual and in-person KII and in-person focus group discussions were conducted between March and September 2021. Sub-national data collection was in Lagos and Kaduna states. Data analysis consisted of thematic analysis, which involves examining data to identify common themes.

Findings

Decision Making

All respondents were able to identify one type of decision they regularly make in their work. The decisions fell into four categories: (1) high-level financing, (2) policymaking, (3) strategic planning, and (4) administration and implementation. National-level respondents described all four types of decisions, while decisions identified by sub-national respondents were more often related to strategic planning or administration and implementation. The specific content of decisions in the same category varied by administrative level.

High-level Financing: Three federal level respondents from government and development partners described decisions related to high-level financing. The specific responsibilities they described included funding programs or plans, reviewing calls for proposals, and advocating for government funding for nutrition. One respondent explained: “What I do generally, I try to initiate programs in line with country priorities for nutrition. And I try to deploy funding to execute some of those initiatives.” The decision-making process of these individuals involved responding to the strategic priorities of donors, aligning goals with country priorities, and supporting governments to make advancements in reaching global targets.

Policymaking: Seven respondents from the national and LGA levels discussed decisions related to policymaking. Policy-making decisions involved identifying nutrition problems and potential solutions, generating policy attention to specific topics or agenda-setting, advocacy for policy priorities, and establishing targets in policies and plans. One national-level respondent involved in advocacy explained: “We’re also advocating for policy shifts…one of the things in my portfolio is that I have to ensure that the country adopts some of the recommendations, especially on multiple micronutrient supplementation.” Another LGA respondent involved in advocacy with local leaders around nutrition issues stated: “It’s always creating awareness and passing information…We go to the Chairman’s to advocate and get support. Maybe if they can do it, they give us support for some food substances, so that we can prepare that for our people.”

Strategic Planning: Fifteen respondents across the national, state, and LGA levels discussed decisions related to strategic planning. These decisions involved supporting policy or guideline development, developing operational and strategic plans, assessing the fit of proposed state programs relative to objectives, and selecting which interventions to implement and where. One state-level respondent described their planning role as: “We look at how are they [activities) to be implemented, what resources are required for that implementation. For some of them, we already have structures on the ground. All we need to do is roll those interventions on the structures that we already have.”

Administration and Implementation: The majority of respondents across administrative levels, including at the facility level, discussed decisions related to administration and implementation. They described implementing activities, managing operations and resources, coordination, monitoring and evaluation, and service delivery. For example, some national-level respondents discussed implementing national campaigns and development partner programs. State and LGA levels mentioned conducting community sensitization, delivering programs, and treating malnutrition. Community-level respondents talked about community-level services (e.g., wasting screening, referrals). Some respondents discussed management roles (e.g., overseeing field teams; allocating resources for interventions). As one state-level stakeholder described: "I'm the one that deploys personnel to the health facilities. I also deploy the resources that are needed in terms of commodities, in terms of consumables, and in terms of tools. From my office to the Local Government to the primary health centers." Lastly, others described monitoring and evaluation responsibilities such as tracking program and policy implementation, analyzing data, and sharing information with high-level decision-makers).

Factors Influencing Decisions: All respondents considered different factors, including data, as part of decision-making. Nearly all discussed using data to understand needs, advocate on issues, identify the availability of inputs, and monitor implementation and progress. Respondents also considered government nutrition priorities, the burden or prevalence of issues, and high-need geographic areas. Available funding, the security situation, and answering to donor and government priorities were also key drivers of decisions for strategic planning and implementation. Those involved in strategic planning and implementation were also more likely to mention community engagement, human resources available, cultural norms, and understanding of the implementation of existing programs. Respondents described engaging other stakeholders to gain information and the perspectives of others about situations and responses. Also important in high-level financing and policymaking decisions were system capacities or an environment ready to address challenges. One stakeholder stated: "You also have to remember that a lot of the situation is not just finance related. A lot of it is about governance. It is about putting processes and procedures in place and to be able to deliver on the mandate of whichever department, agency, or ministry. That is what determines the envelope as well as the availability of funds." Another respondent involved in policymaking explained, "You look at the infrastructure because there are criteria needed… ensuring that you have a health facility in a particular setting, in a particular location. And we look at manpower because you need people to work with."

Data Sources

During interviews, the most commonly-mentioned sources for data used in decision making were the National Health Management and Information System (NHMIS) (n = 33) and the Nigeria Demographic and Health Survey (NDHS) (n = 30). Fewer respondents mentioned the National Health Facility Survey (n = 2), which was described as useful for strategic planning by Kaduna State respondents, partner program data (n = 15), research (n = 8), and ad-hoc surveys such as Rapid SMART (n = 6).

Other administrative sources reported included health facility data (n = 15), MNCHW data (n = 6), and emergency nutrition cluster data (n = 4). Among development partners, organizations that reported using NHMIS data were more likely to have integrated NHMIS indicators into their program monitoring frameworks. Health facility data, which are not necessarily captured in the NHMIS/DHIS-2 system, were only mentioned by state and LGA level respondents.

For surveys, respondents described using NDHS because it contains many nutrition indicators, is reliable, and is trusted by government leaders who they often advocate to. Other key survey sources mentioned include the National Nutrition and Health Survey (NNHS/SMART) (n = 22) and the Multiple Indicator Survey (MICS) (n = 18). The NNHS was described as useful because of its frequency and disaggregation to the state level. No specific points were made about MICS.

Data Used by Respondents

Almost all respondents described specific indicators they need and use to inform their decisions. Four LGA-level respondents were not able to describe the data they use or need. Indicators for nutritional outcomes (e.g., acute malnutrition, stunting), infant and young child feeding (IYCF), and intervention coverage were most frequently mentioned. Some respondents relied on indicators related to global or donor reporting guidelines, such as the World Health Assembly indicators. Data needs could, however, vary based on the administrative level. One respondent explained: "The truth is…the national have priority indicators that can be international target indicators while we focus on the basic indicators for service delivery. It's like stunted children, that is one the national would want to align with, but we want something that can inform and improve our service delivery at the facility and community level."

Specific Indicators Used to Inform Decisions

Nutritional status: Respondents described using data on child nutrition, including wasting, acute malnutrition (MUAC), child stunting, and child underweight. Child obesity was only mentioned at the national and state-level, not LGA or community. Birth outcomes data included low birth weight, preterm births, stillbirths, and small for gestational age. Respondents also described maternal nutrition outcome data, including BMI, MUAC, and weight gain during pregnancy. Data on anaemia in women was mentioned much more frequently than child anemia.

Only three respondents mentioned micronutrient status indicators, which is consistent with the lack of data at the time of interviews (i.e., before release of NFCMS 2021). Generally, respondents noted that they rely on proxy indicators of micronutrient status, such as coverage of Vitamin A supplementation. In addition, two state-level respondents mentioned using data on diet-related NCDs (i.e., diabetes, hypertension), but no respondents at the federal or LGA level mentioned NCD-related data, which is also consistent with data being unavailable at the time of the interview.

Most respondents described adolescent nutrition as a huge data gap; only one development partner said they use program data on adolescents. Child mortality data (neonatal and under-5 mortality data) was also mentioned by seven respondents across administrative levels.

Underlying determinants of malnutrition: IYCF indicators were frequently mentioned across administrative levels and types of decision-making. The most common included exclusive breastfeeding (n = 26), early initiation of breastfeeding (n = 15), and timely introduction of complementary feeding (n = 11). Minimum dietary diversity (MDD) (n = 6), minimum acceptable diet (MAD) (n = 3) and minimum meal frequency (MMF) (n = 3) were also mentioned.

A few respondents (n = 3) expressed the need for household food security data (n = X). A few mentioned food systems indicators such as food fortification, compliance with food fortification, households with established kitchen gardens, and school feeding coverage.

State and LGA stakeholders discussed using data on child illness (diarrhoea, pneumonia, malaria) consistent with their focus on health facilities. Only two federal level respondents mentioned child morbidity. A couple of respondents mentioned WASH data.

Intervention reach or coverage: Data on the reach or coverage of nutrition interventions were frequently mentioned by respondents. The most common were IFA supplementation (n = 14) and MIYCN counselling (n = 11). Respondents described using data on ANC attendance, including the number of visits (4+ and 8+) and the percentage of first ANC attendance in the first trimester. Fewer respondents mentioned counselling received during postnatal visits and intermittent prevention of malaria during pregnancy.

For child interventions, Vitamin A supplementation (n = 21) and deworming (n = 11) were frequently mentioned. Respondents also used data on growth monitoring and promotion attendance, and management of acute malnutrition. Other coverage indicators included zinc and/or ORS for diarrhoea,

provision of micronutrient powder to children 6-23 months, children sleeping under a bed net, households with iodized salt, and facilities conducting food demonstrations.

Readiness to implement: Respondents described the importance of having facility-level data on the availability of (a) nutrition commodities, (b) human resources, (c) functional equipment to provide services such as scales, MUAC tapes, and height boards, and (d) training received by health workers. Readiness indicators were primarily mentioned by state and LGA respondents who described decisions related to strategic planning or implementation and administration.

Data Gaps/Needs

Most stakeholders identified at least one nutrition data gap that affected their work. However, 10 state and LGA level respondents did not identify any data gaps.

Some respondents described data gaps caused by incomplete reporting and, in particular, paper-based administrative systems. One federal government respondent explained, *"If you ask anyone how many trained nutrition officers we have in every state, it will take you a long time before you get that data. [It is] manually collated. It's not like you can log into DHIS2…We hear through the grapevine that oh, somebody has done some studies somewhere, but that's not good enough; it should be available at the click of a button."* Respondents also described private facilities failing to report into the NHMIS, particularly for early initiation of breastfeeding. Respondents described some data captured in registers or other facility-level data sources not being reported into the DHIS-2 system per protocol due to either issues at facilities or technological challenges with DHIS2.

Respondents also described delays or inconsistencies in household survey schedules as a cause of data gaps. Several described national surveys that were implemented but never publicly disseminated. The lack of survey data disaggregated to the state or LGA level was seen as another contributor to the data gap.

Gaps in nutritional status data: Many respondents described the lack of recent data on micronutrient deficiencies (e.g., Vitamin A, iodine, zinc deficiencies) and relying on proxy indicators or old data. Some respondents noted the forthcoming Food Consumption and Micronutrient Survey 2020/2021 as a source of updated data.

Compared to other administrative levels, state-level respondents were more likely to report a lack of updated data on the prevalence of acute malnutrition, particularly outside of the Northeast region. State-level respondents described a lack of childhood obesity data but noted the indicator is included in monitoring and evaluation frameworks. Data gaps for the nutritional status of women of reproductive age were noted as well. Adolescent data was one of the most frequently reported gaps; respondents reported having to use estimates from research studies.

A small number of respondents noted other population groups without nutritional status data: school-aged children (n = 1), men (n = 1), and the elderly (n = 4). These groups were said to be included in policy documents given the life-cycle approach to nutrition but lacked information to support response.

Gaps in determinants of malnutrition data: Stakeholders discussed the lack of data on food consumption, although they acknowledged the forthcoming NFCMS 2021.

Respondents noted insufficient data on MIYCN counselling despite the inclusion of ANC nutrition counselling in NHMIS. Specific gaps related to MIYCN counselling include the location of services (e.g., facility, community), populations reached (e.g., caregivers, other family members), and specific messaging. Only one state-level respondent indicated a data gap for weight gain during pregnancy. Another individual identified the lack of harmonized definition for IFA coverage across data sources (e.g., 90+ vs. any). Another respondent described the lack of data on Vitamin A coverage from MNCHW and issues with

integration of these data with facility-level data. Several respondents described a gap in the data on the number of facilities offering CMAM services.

A lack of information on community-level nutrition services was reported by state level respondents. "All we have is facility-level data that comes in routinely, but that doesn't say a lot about what's happening routinely in the community," stated one respondent. Systems for data reporting by community volunteers were highly localized, with programs supported by specific partners reporting more consistently.

Enabling Environment for Data Demand and Data Use

Respondents discussed issues that can facilitate and inhibit data use, including data access, data quality, data generation at the facility and community level, and data use promotion activities.

The primary issue around data access noted by respondents was a lack of a personal password to access the DHIS-2 platform. Many respondents described relying on colleagues with DHIS-2 access to access data as a barrier in their work. Respondents also discussed issues with surveys that do not publish their reports.

Data quality challenges were mentioned primarily for data from NHMIS, including incomplete data for nutrition indicators, states with missing data, data entry errors, incorrect data, or data that did not make sense. Some respondents expressed a lack of trust associated with the poor data quality.

Respondents at the state, LGA, and facility levels described infrastructure challenges that influence NHMIS data quality. State-level stakeholders described challenges associated with the lack of internet access at LGA or state facilities. At times, they enter data offline and go online to upload it but then face system issues with what gets uploaded. For example, one of these respondents explained: ***"Sometimes, you query, and you get data. Tomorrow, you query again, you see a different data, even while you are citing your data."*** These respondents highlighted the importance of adequate access to functional computers and internet service.

When asked about data quality, sub-national respondents highlighted the lack of adequate training for health workers on collecting and reporting NHMIS data but also lack of training on delivering nutrition services more generally. Respondents reported issues specific to the 2019 NHMIS tools, including the incomplete rollout of training and challenges with receiving new registers. Some facilities responded by collecting data on registers they created themselves. Facility level staffing issues were also seen as a cause for poor data quality. One M&E officer explained: *"When you go the facility, you will see only two people managing the facilities. But at that facility, there is antenatal; there is children immunization, there is those that are coming for family planning services, there is those that are coming for other services, and [those two] have about 14 registers to manage. That is where we have a very big challenge in terms of human resources."*

State and LGA level respondents also described activities to promote the use of administrative data in decision-making. These activities include integrated supervision with spot checks of facility registers and data validation meetings between LGA and the health facility in charge to review data submitted to the NHMIS/DHIS-2 platform with facility tally sheets or NHMIS monthly summary forms. Monthly or quarterly data review meetings, including state leaders, development partners, and civil society, were also described at the state level and specifically used to inform annual plans. One state-level respondent explained that these meetings were useful in disseminating data, identifying concerns as well as taking corrective measures, and understanding whether the nutrition activities achieve results.

FGD Findings on Community-Level Data

During the focus group discussions, community volunteers in Lagos and Kaduna states explained their role in collecting and reporting data on nutrition activities. Volunteers use tools to collect data on their

MIYCN promotion and acute malnutrition screening and referral activities. Each month volunteers share the data with health facilities or the nutrition program officers. Volunteers in both states explained that the data get registered at the facility, but they did not know how the data get used afterward. As one volunteer explained: *"As I have said, we report to the nutrition officer. We give her everything. She collates everybody's data and sends to state. She takes charge; whatever she's doing with the data, we don't know."*

Conclusion

Nutrition stakeholders at the federal, state, LGA, and facility levels regularly make professional decisions informed by data as well as several other factors, including funding, government priorities, security situations, and availability of inputs. Stakeholders use a variety of data sources, but there was a notable reliance on NHMIS administrative data and the NDHS survey. The NNHS survey, if it continued to be conducted annually, was also an important source of data for stakeholders. Several data gaps were noted by respondents, especially for several population groups and micronutrient status data. Sub-national respondents were more likely than federal respondents to use NHMIS data. Despite challenges with the quality of the NHMIS administrative data, several activities are conducted to promote the use of such data and to address data quality issues. While the availability and access to quality data are important, efforts should also be taken to address the challenges health workers and LGA stakeholders face in their environments that affect their ability to generate and report quality data.

Appendix 9: Scale of Health Sector Nutrition Interventions in Nigeria (April 2022)

Stage along the Continuum of Care	National Scale	Sub-national Scale	Pilot
Non-pregnant women & adolescent girls		IFA supplementation to boys & girls IFA to girls via the Education sector (ANRiN)	
Pregnancy	Antenatal care IFA supplementation MIYCN counselling Intermittent preventive treatment (IPTp) of malaria		Multiple micronutrient supplements
Delivery and postnatal care	Delayed cord clamping Breastfeeding counselling & support during PNC		
Child malnutrition prevention and growth promotion	Vitamin A supplementation Micronutrient powder supplementation Deworming IYCF counselling Growth monitoring Acute malnutrition screening Distribution of LLIN	Food supplementation for complementary feeding SQ-LNS	
Child treatment	Management of MAM Treatment of SAM Zinc/ORS for diarrhoea	SQ-LNS	

Appendix 10: Standard Definitions of Health Sector Nutrition Indicators According to Normative Guidance

The use of standard indicator definitions by all data collection partners helps to ensure the comparability of data across sources and over time. It also facilitates the inclusion of data into a NIS. At present, Nigeria does not have a centralized list of nutrition indicators with standard definitions. Policy frameworks provide definitions for some but not all indicators. Nutrition indicators included in the NHMIS are defined in the Instructional Manual for Revised NHMSI Tools (Version 2019), and those collected in national surveys are defined in individual survey reports. These indicators and their definitions are presented in Annex 7.

This Appendix summarizes definitions for nutrition-relevant indicators drawn from global references. Most indicators assume data collection through household surveys. UNICEF is working to develop additional guidance for nutrition indicators collected throufh the administrative system (see https://data.unicef.org/resources/strengthening-nutrition-information-systems) .

	Indicators	Definition	Numerator	Denominator	Source Type	Source
Nutritional Status						
1	**Preterm birth rate**	The number of babies born alive before 37 weeks of pregnancy are completed, per 100 live births per year	Number of births before 37 completed weeks of gestation, per 100 live births per year — Extremely preterm (< 28 weeks) — Very preterm (28 to 32 weeks) — Moderate/late preterm (32-37 weeks)	Total number of live births	Administrative	WHO Global Health Observatory https://www.who.int/data/gho/indicator-metadata-registry/imr-details/4420
2	**Low birth weight**	Percentage of live births under 2500 g out of the total number of live births during the same period.	Number of live-born neonates with weight less than 2500 g at birth	Total number of live births	Administrative	Global Nutrition Monitoring Framework: Operational guidance for tracking progress in meeting targets for 2025. Geneva: World Health Organization; 2017. https://www.who.int/publications/i/item/9789241513609
3	**Stunting (HAZ)**	Percentage of stunted (moderate and severe) children aged 0–59 months	Number of children aged 0–59 months who are stunted — Moderate stunting: length/height-for-age between <-2 and >-3 SD of the WHO Child Growth Standards median — Severe stunting: height-for-age below -3 SD of the WHO Child Growth Standards median	Total number of children aged 0–59 months who were measured	Population-based survey	Global Nutrition Monitoring Framework: Operational guidance for tracking progress in meeting targets for 2025. Geneva: World Health Organization; 2017. https://www.who.int/publications/i/item/9789241513609
4	**Wasting (WHZ)**	Percentage of wasted (moderate and severe) children aged 0–59 months	Number of children aged 0–59 months who are wasted — Moderate wasting: weight-for-length/height between <-2 and >-3 SD of the WHO Child Growth Standards median — Severe wasting: weight-for-length/height below -3 SD of the WHO Child Growth Standards median	Total number of children aged 0–59 months who were measured	Population-based survey	

	Indicators	Definition	Numerator	Denominator	Source Type	Source
Nutritional Status						
5	**Overweight (WHZ)**	Percentage of overweight children 0–59 months	Number of children aged 0–59 months who are overweight or obese — Overweight: weight-for-length/height above +2 SD of the WHO Child Growth Standards median — Obese: weight-for-length/height above +3 SD of the WHO Child Growth Standards median	Total number of children aged 0–59 months who were measured	Population-based survey	Global Nutrition Monitoring Framework: Operational guidance for tracking progress in meeting targets for 2025. Geneva: World Health Organization; 2017. https://www.who.int/publications/i/item/9789241513609
6	**Underweight (WAZ)**	Percentage of underweight children aged 0–59 months	Number of children aged 0–59 months who are underweight — Moderate: weight-for-age <-2 standard deviations (SD) of the WHO Child growth standards median — Severe: weight-for-age <-3 standard deviations (SD) of the WHO Child growth standards median	Total number of children aged 0–59 months who were measured	Population-based survey	Nutrition Landscape Information System (NLiS) country profile indicators: Interpretation guide, second edition. Geneva: World Health Organization; 2019. https://www.who.int/publications/i/item/9789241516952
7	**Acute Malnutrition (MUAC)**	Percentage of children 6-59 months with acute malnutrition	Number of children aged 6-59 months who are malnourished — Moderate acute malnutrition: MUAC measurement between 115 mm - 125 mm and/or bilateral edema — Severe acute malnutrition: MUAC measurement < 115 mm and/or bilateral edema	Total number of children age 6-59 months who were measured	Administrative & Population-based survey	UNICEF Mid-upper arm circumference (MUAC) measuring tapes – technical bulletin No 13. https://www.unicef.org/supply/media/1421/file/mid-upper-arm-circumference-measuring-tapes-technical-bulletin.pdf
8	**BMI-for-age Z score in older children and adolescents**	Percentage of children and adolescents aged 5–19 years who are […] of the median BMI for age of the WHO growth reference for school-aged children and adolescents	Number of children and adolescents 5-19 years old who fall at the various cut points — Severe thinness: <-3SD — Thinness: <-2SD — Overweight: ≥ +1 ≤+2 — Obesity: >+2SD	Total number of children age 5-19 years who were measured	Population-based survey	WHO growth reference data for children 5-19 years old https://www.who.int/tools/growth-reference-data-for-5to19-years/indicators/bmi-for-age
9	**Low BMI in women of reproductive age**	Percentage of women aged 15–49 years with low BMI (<18.5 kg/m2). This excludes pregnant women	Number of non-pregnant women aged 15–49 years with low BMI (<18.5kg/m2)	Total number of non-pregnant women aged 15–49 years who were measured	Population-based survey	Global Nutrition Monitoring Framework: Operational guidance for tracking progress in meeting targets for 2025. Geneva: World Health Organization; 2017. https://www.who.int/publications/i/item/9789241513609

	Indicators	Definition	Numerator	Denominator	Source Type	Source
Nutritional Status						
10	**MUAC for women of reproductive age**	Percentage of women of reproductive age with acute malnutrition	Number of women age 15 - 49 years who are malnourished — Moderate malnutrition: MUAC measurement >190 to < 230 mm — Severe malnutrition: MUAC measurement < 190 mm **International-based MUAC cut-offs have not been established for adults. Several countries have established their own cutoffs, which vary.*	Total number of women aged 15 to 49 years who were measured	Administrative & Population-based survey	FANTA Project Guide to Anthropometry https://www.fantaproject.org/sites/default/files/resources/FANTA-Anthropometry-Guide-May2018.pdf
11	**Body Mass Index (BMI) in adults**	Percentage of people within a specific group based on the ratio of weight in kilograms divided by the square of their height in metres (kg/m2)	Total number of adults who are underweight/thin, overweight, or obese — Thin/underweight: BMI < 18.5 — Overweight: BMI ≥ 25.0 — Obesity: BMI ≥ 30.0	Total number of adults who were measured	Population-based survey	FANTA Project Guide to Anthropometry https://www.fantaproject.org/sites/default/files/resources/FANTA-Anthropometry-Guide-May2018.pdf
12	**Waist circumference**	Mean measure of abdominal, or visceral, fat of individuals (men, women, elderly)	Number of people with higher than waist circumference cut-off — Increased risk (women): >80 cm — Increased risk (men): >94 cm — Substantially increased risk (women): >88cm — Substantially increased risk (men): >102	Total number of adult people who were measured	Administrative & Population-based survey	
13	**Anaemia (haemoglobin) child**	Percentage of children 6-59 months whose haemoglobin concentration <110 g/L at sea level	Number of children 6-59 months who are anaemic	Total number of children 6-59 months whose haemoglobin levels were measured	Population-based survey	Nutrition Landscape Information System (NLiS) country profile indicators: Interpretation guide, second edition. Geneva: World Health Organization; 2019. https://www.who.int/publications/i/item/9789241516952
14	**Anaemia (haemoglobin) (women)**	Percentage of women aged 15–49 years with a haemoglobin level less than 120 g/L for nonpregnant women and lactating women, and less than 110 g/L for pregnant women, adjusted for altitude and smoking	Number of women aged 15–49 years with haemoglobin levels below the indicated cut-off, adjusted for altitude and smoking	Total number of pregnant women 15–49 years whose haemoglobin levels were measured	Population-based survey	Global Nutrition Monitoring Framework: operational guidance for tracking progress in meeting targets for 2025. Geneva: World Health Organization; 2017. https://www.who.int/publications/i/item/9789241513609

	Indicators	Definition	Numerator	Denominator	Source Type	Source
Nutritional Status						
15	**Adult diabetes (blood glucose)**	Adults aged 18 and older with fasting glucose ≥7.0mmol/L, on medication for raised blood glucose or with a history of diagnosis of diabetes.	Fasting glucose in or medication for raised blood glucose or with a history of diagnosis of diabetes	Total number of adults with diabetes measured	Administrative	2020 Global Nutrition Report Appendix 1: Nutrition Indicators.https://globalnutritionreport.org/documents/578/Appendix_1_Nutrition_indicators_2020GNR.pdf
16	**Hypertension (blood pressure)**	Adults aged 18 and over with raised blood pressure	Number of people with raised blood pressure systolic and/or diastolic blood pressure ≥140/90mmHg.	Total number of adults with hypertension measured	Administrative	
17	**Adult total cholesterol**	Mean total cholesterol in adult population	Mean total cholesterol mmol/l. Desirable individual levels are: Total cholesterol <5.0 mmol/L	Total number of adults with cholesterol measured	Administrative & Population-based surveys	WHO Global Health Observatory.https://www.who.int/data/gho/indicator-metadata-registry/imr-details/2384
18	**Salt intake**	Age-standardized mean population intake of salt (sodium chloride) per day in grams in adults aged 18+ years	Mean intake of salt per day in grams	Total number of adults with salt intake measured	Population-based survey	
19	**Micronutrient status: Vitamin A deficiency**	Percentage of people with severe depletion of liver vitamin A stores	Number of people (any population group)with ≤0.7 µmol/L serum retinol	Total number of people measured	Population-based survey	Micronutrient Data Generation Initiative https://micronutrientforum.org/wp-content/uploads/2021/04/MNF-Strategic-Plan-MN-status-data.pdf
20	**Micronutrient status: Thiamine**	Percentage of people with an inadequate ETK activity coefficient	Number of people (any population group) with an inadequate ETK activity coefficient o — Insufficiency: 1.15-1.25 — Deficiency: > 1.25	Total number of people measured	Population-based survey	
21	**Micronutrient status: Folate**	Percentage of people with inadequate serum folate or RBC folate	Number of people (any population group) with inadequate folate — Serum folate: deficiency is <10 nmol/L — RBC folate: deficiency is <340 nmol/L	Total number of people measured	Population-based survey	
22	**Micronutrient status: Vitamin B12**	Percentage of people (any population group) with inadequate plasma B12	Number of people (any population group) with < 150 pg/mL of plasma B12	Total number of people measured	Population-based survey	Micronutrient Data Generation Initiative https://micronutrientforum.org/wp-content/uploads/2021/04/MNF-Strategic-Plan-MN-status-data.pdf
23	**Micronutrient status: Vitamin D**	Percentage of people (any population group) with inadequate serum 25 (OH) D	Number of people (any population group) with < 25 nmol/mL	Total number of people measured	Population-based survey	
24	**Micronutrient status: Iodine deficiency (school children)**	Percentage of school children with low urinary iodine concentration	Number of school children with a median urinary iodine concentration of < 100 µg/L	Total number of school children measured	Population-based survey	
25	**Micronutrient status: Iodine deficiency (PLW)**	Percentage of pregnant and lactating women with low urinary iodine concentration	Number of pregnant and lactating women with a median urinary iodine concentration of < 150 µg/L	Total number of pregnant and lactating women measured	Population-based survey	

	Indicators	Definition	Numerator	Denominator	Source Type	Source
Nutritional Status						
26	**Micronutrient status: Iron deficiency (0-59m)**	Percentage of children with low iron stores (as indicated by ferritin levels)	Number of children < 5 years with ferritin levels of […] — Healthy child: <12 µg/L — Child with infection or inflammation: < 30µg/L	Total number of children < 5 years measured	Population-based survey	Micronutrient Data Generation Initiative https://micronutrientforum.org/wpcontent/uploads/2021/04/MNF-Strategic-Plan-MNstatus-data.pdf
27	**Micronutrient status: Iron deficiency (>5 y)**	Percentage of people with low iron stores (as indicated by ferritin levels)	Number of people 5 years or older with ferritin levels of […] — Healthy individual: <15 µg/L — Individual with infection or inflammation: < 70 µg/L	Total number of people > 5 years measured	Population-based survey	
28	**Micronutrient status: Iron deficiency (PW 1st trimester)**	Percentage of pregnant women with low iron stores (as indicated by ferritin levels)	Number of pregnant women in their first trimester with ferritin levels of < 15 µg/L	Total number of pregnant women measured	Population-based survey	Micronutrient Data Generation Initiative https://micronutrientforum.org/wp-content/uploads/2021/04/MNF-Strategic-Plan-MN-status-data.pdf
29	**Micronutrient status: Zinc deficiency (< 10 y)**	Percentage of children < 10 years with low serum zinc	Number of children < 10 years with serum zinc levels of — If measured in the morning: <65 ug/dL — If measured in the afternoon: <57 ug/dL	Total number of children < 10 years measured	Population-based survey	
30	**Micronutrient status: Zinc deficiency (females ≥ 10 years)**	Percentage of females ≥ 10 years with low serum zinc	Number of females ≥ 10 years with serum zinc levels of […] — If fasting: <70 ug/dL — If measured in the morning, non-fasting: <66 ug/dL — If measured in the afternoon, non-fasting: <59 ug/dL	Total number of females ≥ 10 years measured	Population-based surve	
31	**Micronutrient status: Zinc deficiency (males ≥ 10 years)**	Percentage of males ≥ 10 years with low serum zinc	Number of males ≥ 10 years with serum zinc levels of […] — If fasting: <74 ug/dL — If measured in the morning, non-fasting: <70 ug/dL — If measured in the afternoon, non-fasting: <61 ug/dL	Total number of males ≥ 10 years measured	Population-based surve	
32	**Micronutrient status: Zinc deficiency (PW)**	Percentage of pregnant females in the second or third trimester with low serum zinc	Number of pregnant females in second or third trimester with serum zinc levels of <50 ug/dL	Total number of pregnant females measured	Population-based surve	
33	**Drivers of aenemia: micronutrient deficiencies**	*See Vitamin A, Zinc, folate, and B12 defined above	*See Vitamin A, Zinc, folate, and B12 defined above			

	Indicators	Definition	Numerator	Denominator	Source Type	Source
Nutritional Status						
34	**Drivers of aenemia: malaria**	Percentage of children 6-59 months with malaria infection	Number of children aged 6-59 months with malaria infection detected by rapid diagnostic test or microscop	Total number of children aged 6-59 months tested	Population-based surve	Household Survey Indicators for malaria Control https://www.malariasurveys.org/documents/Household%20Survey%20Indicators%20for%20Malaria%20Control_FINAL.pdf
35	**Drivers of aenemia: helminth infections**	Percentage of children with infection of one or more helminths (roundworm, hookworm, whipworm)	Number of children with helminth infection	Total number of children aged 6-59 months tested	Population-based surve	Pullan, R. L., Smith, J. L., Jasrasaria, R., & Brooker, S. J. (2014). Global numbers of infection and disease burden of soil transmitted helminth infections in 2010. Parasites & vectors, 7(1), 1-19.
36	**Drivers of aenemia: inflammation**	Percentage of people with inflammation (as determined by C-reactive protein (CRP) or 1-acid glycoprotein (AGP).	Number of people with inflammation — CRP: >5 mg/L — AGP: >1 g/L	Total number of people measured	Population-based surve	Thurnham, David I. 2014. "Interactions between Nutrition and Immune Function: Using Inflammation Biomarkers to Interpret Micronutrient Status." Proceedings of the Nutrition Society 73 (01): 1–8. doi:10.1017/S0029665113003662.
37	**Drivers of aenemia: blood disorders and other infections**	Measurement of other cause including inherited blood disorders (e.g., sickle cell, α-thalassemia) or infectious disesasee (e.g. HIV/AIDS) depends on context.			Population-based survey	For more information: Brinda Project https://www.brinda-nutrition.org/

	Indicators	Definition	Numerator	Denominator	Source Type	Source
Diet Quality						
38	**Ever breastfed**	Percentage of children born in the last 24 months who were ever breastfed	Number of children born in the last 24 months who were ever breastfed	Total number of children born in the last 24 months.	Population-based survey	Indicators for assessing infant and young child feeding practices: definitions and measurement methods. Geneva: World Health Organization and the United Nations Children's Fund (UNICEF), 2021. https://www.who.int/publications/i/item/9789240018389
39	**Early initiation of breastfeeding**	Percentage of children born in the last 24 months who were put to the breast within one hour of birth.	Number of children born in the last 24 months who were put to the breast within one hour of birth	Total number of children born in the last 24 months	Population-based survey	
40	**Exclusively breastfeed for the first 2 days after birth**	Percentage of children born in the last 24 months who were fed exclusively with breast milk for the first two days after birth	Number of children born in the last 24 months who were fed exclusively with breast milk for the first two days after birth	Total number of children born in the last 24 months	Population-based survey	
41	**Exclusive breastfeeding**	Percentage of infants 0–5 months of age who were fed exclusively with breast milk during the previous day. Fed exclusively with breast milk means the child was fed only breast milk, with no other food or drink, not even water.	Number of infants 0–5 months of age who were fed only breast milk during the previous day	Total number of infants 0–5 months of age	Population-based survey	Indicators for assessing infant and young child feeding practices: definitions and measurement methods. Geneva: World Health Organization and the United Nations Children's Fund (UNICEF), 2021. https://www.who.int/publications/i/item/9789240018389
42	**Mixed milk feeding under 6 months**	Percentage of infants 0–5 months of age who were fed formula and/or animal milk in addition to breast milk during the previous day	Number of infants 0–5 months of age who were fed formula and/or animal milk in addition to breast milk during the previous day	Total number of infants 0–5 months of age	Population-based survey	
43	**Continued breastfeeding at 1 year**	Percentage of children 12–23 months of age who were fed breast milk during the previous day	Number of children 12–23 months of age who were fed breast milk during the previous day	Total number of children 12–23 months of age	Population-based survey	
44	**Continued breastfeeding at 1 year**	As of 2021, this indicator is no longer recommended by WHO-UNICEF. Age window widened to reflect any breastfeeding in the second year of life (indicator above) because Sample size tended to be small for children aged 12–15 months and age window did not accurately reflect "at 1 year"			Population-based survey	
45	**Continued breastfeeding at 2 year**	As of 2021, this indicator is now combined with continued breastfeeding 12–23 months as described above.			Population-based survey	
46	**Age-appropriate breastfeeding**	As of 2021, this indicator was deleted because it is a composite indicator that was hard to interpret programmatically.			Population-based survey	
47	**Bottle feeding**	Percentage of children 0–23 months of age who were fed from a bottle with a nipple during the previous day	Number of children 0–23 months of age who were fed from a bottle with a nipple during the previous day	Total number of children 0–23 months of age	Population-based survey	

	Indicators	Definition	Numerator	Denominator	Source Type	Source
Diet Quality						
48	**Introduction of solid, semi-solid, or soft foods 6-8 months**	Percentage of infants 6–8 months of age who consumed solid, semisolid or soft foods during the previous day	Number of infants 6–8 months of age who consumed solid, semi-solid or soft foods during the previous day	Total number of infants 6–8 months of age	Population-based survey	Indicators for assessing infant and young child feeding practices: definitions and measurement methods. Geneva: World Health Organization and the United Nations Children's Fund (UNICEF), 2021. https://www.who.int/publications/i/item/9789240018389
49	**Minimum dietary diversity (MDD)**	Percentage of children 6–23 months of age who consumed foods and beverages from at least five out of eight defined food groups during the previous day.	Number of children 6–23 months of age who consumed foods and beverages from at least five out of eight defined food groups during the previous day. The eight food groups used for this indicator are: 1. breast milk; 2. grains, roots, tubers and plantains; 3. pulses (beans, peas, lentils), nuts and seeds; 4. dairy products (milk, infant formula, yogurt, cheese); 5. flesh foods (meat, fish, poultry, organ meats); 6. eggs; 7. vitamin-A rich fruits and vegetables; and 8. other fruits and vegetables	Total number of children 6–23 months of age	Population-based survey	Indicators for assessing infant and young child feeding practices: definitions and measurement methods. Geneva: World Health Organization and the United Nations Children's Fund (UNICEF), 2021. https://www.who.int/publications/i/item/9789240018389
50	**Minimum meal frequency (MMF)**	Percentage of children 6–23 months of age who consumed solid, semi-solid or soft foods (but also including milk feeds for non-breastfed children) the minimum number of times or more during the previous day.	Number of children 6–23 months of age who consumed solid, semi-solid or soft foods at least the minimum number of times during the previous day. The minimum number of times is defined as: — two feedings of solid, semi-solid or soft foods for breastfed infants aged 6–8 months; — three feedings of solid, semi-solid or soft foods for breastfed children aged 9–23 months; and — four feedings of solid, semi-solid or soft foods or milk feeds for non-breastfed children aged 6–23 months whereby at least one of the four feeds must be a solid, semi-solid or soft feed.	Total number of children 6–23 months of age	Population-based survey	

	Indicators	Definition	Numerator	Denominator	Source Type	Source
Diet Quality						
51	**Minimum acceptable diet (MAD)**	Percentage of children 6–23 months of age who consumed a minimum acceptable diet during the previous day.	Number of children 6–23 months of age who consumed a minimum acceptable diet during the previous day. — for breastfed children: receiving at least the minimum dietary diversity and minimum meal frequency for their age; — for non-breastfed children: receiving at least the minimum dietary diversity and minimum meal frequency for their age during the previous day as well as at least two milk feeds.	Total number of children 6–23 months of age	Population-based survey	Indicators for assessing infant and young child feeding practices: definitions and measurement methods. Geneva: World Health Organization and the United Nations Children's Fund (UNICEF), 2021. https://www.who.int/publications/i/item/9789240018389
52	**Egg and/ or flesh food consumptions 6-23 months**	Percentage of children 6–23 months of age who consumed egg and/or flesh food during the previous day	Number of children 6–23 months of age who consumed egg and/or flesh food during the previous day	Total number of children 6–23 months of age	Population-based survey	
53	**Sweet beverage consumption 6-23 months**	Percentage of children 6–23 months of age who consumed a sweet beverage during the previous day	Number of children 6–23 months of age who consumed a sweet beverage during the previous day	Total number of children 6–23 months of age	Population-based survey	
54	**Unhealthy food consumption**	Percentage of children 6–23 months of age who consumed selected sentinel unhealthy foods during the previous day.	Number of children 6–23 months of age who consumed selected sentinel unhealthy foods during the previous day. Selected sentinel unhealthy foods are: — Candies, chocolate and other sugar confections, including those made with real fruit or vegetables like candied fruit or fruit roll-ups. — Frozen treats like ice cream, gelato, sherbet, sorbet, popsicles or similar confections. — Cakes, pastries, sweet biscuits and other baked or fried confections which have at least a partial base of a refined grain, including those made with real fruit or vegetables or nuts, like apple cake or cherry pie. — Chips, crisps, cheese puffs, French fries, fried dough, instant noodles and similar items which contain mainly fat and carbohydrate and have at least a partial base of a refined grain or tuber. These foods are also often high in sodium. Consumption of any amount of food from any of the sentinel categories "counts", i.e., there is no minimum quantity	Total number of children 6–23 months of age	Population-based survey	Indicators for assessing infant and young child feeding practices: definitions and measurement methods. Geneva: World Health Organization and the United Nations Children's Fund (UNICEF), 2021. https://www.who.int/publications/i/item/9789240018389
55	**Zero vegetable or fruit consumption 6-23 months**	percentage of children 6–23 months of age who did not consume any vegetables or fruits during the previous day.	Number of children 6–23 months of age who did not consume any vegetables or fruits during the previous day	Total number of children 6–23 months of age	Population-based survey	

	Indicators	Definition	Numerator	Denominator	Source Type	Source
Diet Quality						
56	**Child consumed foods rich in iron**	Percentage of children 6-23 months who consumed meat (and organ meat), fish, poultry, and/or eggs in previous 24 hours	Number of children 6–23 months of age who consumed foods rich in vitamin A during the previous day.	Total number of children 6–23 months of age	Population-based survey	Nigerian Demographic and Health Survey 2013; 2018
57	**Child consumed foods rich in iron**	Percentage of children 6-23 months who consumed meat (and organ meat), fish, poultry, and/or eggs in previous 24 hours	Number of children 6–23 months of age who consumed foods rich in vitamin A during the previous day.	Total number of children 6–23 months of age	Population-based survey	
58	**Women's Dietary Diversity (MDD-W)**	Percentage of women 15–49 years of age who have consumed at least five out of ten defined food groups the previous day or night.	Number of women 15–49 years of age who have consumed at least five out of ten defined food groups the previous day or night The ten food groups are: 1. Grains, white roots and tubers, and plantains 2. Pulses (beans, peas and lentils) 3. Nuts and seeds 4. Dairy 5. Meat, poultry and fish 6. Eggs 7. Dark green leafy vegetables 8. Other vitamin A-rich fruits and vegetables 9. Other vegetables 10. Other fruits	Total number of women 15–49 years of age	Population-based survey	FAO and FHI 360. 2016. Minimum Dietary Diversity for Women: A Guide for Measurement. https://www.fao.org/3/i5486e/i5486e.pdf
59	**Consumption of food vehicle**	Proportion of households that consume a food vehicle	Number of households that reported using a food vehicle or preparing foods with it at home, regardless of whether it is fortifiable or not	Total number of households surveyed	Population-based survey	Fortification Assessment Coverage Toolkit https://www.gainhealth.org/sites/default/files/publications/documents/fact-indicator-definitions-and-measurement-guidelines.pdf
60	**Consumption of a fortifiable food vehicle**	Proportion of households that consume a fortifiable food vehicle	Number of households that reported using a food vehicle that is fortifiable, regardless of whether it is fortified or not	Total number of households surveyed	Population-based survey	
61	**Consumption of fortified food**	Proportion of households that consume a fortified food vehicle	Number of households consuming a food vehicle that is confirmed to be fortified (to any extent)	Total number of households surveyed	Population-based survey	
62	**Awareness of biofortified food**	Proportion of households aware of [insert biofortified food]	Number of households that have heard of or seen [insert biofortified food]	Total number of households surveyed	Population-based survey	Petry, N., Wirth, J. P., Friesen, V. M., Rohner, F., Nkundineza, A., Chanzu, E., ... & Mbuya, M. N. (2020). Assessing the coverage of biofortified foods: Development and testing of methods and indicators in Musanze, Rwanda. Current Developments in Nutrition, 4(8), nzaa107.
63	**Availability of biofortified food**	Proportion of households that know where to buy/obtain [insert biofortified food]	Number of households	Total number of households surveyed	Population-based survey	
64	**Consumption of biofortified food (ever)**	Proportion of households that have ever consumed [insert biofortified food]	Number of households that have ever bought/grown/received [insert biofortified food] for eating	Total number of households surveyed	Population-based survey	
65	**Consumption of biofortified food (current)**	Proportion of households that ate biofortified food the last time household got [insert biofortified food]	Number of households that ate biofortified food the last time household got [insert biofortified food] for eating	Total number of households surveyed	Population-based survey	

	Indicators	Definition	Numerator	Denominator	Source Type	Source
Diet Quality						
66	**Energy intake**	Daily energy intake based on individual calorie consumption	Total daily individual intake based on 24-hour recall or weighed food record or food frequency questionnaire	Total number of individuals surveyed	Population-based survey	INDDEX Project https://inddex.nutrition.tufts.edu/data4diets/indicator/total-individual-energy-intake#:~:text=Total%20individual%20energy%20intake%20is,based%20on%20individual%20calorie%20consumption
67	**Macronutrient intake**	Percentage of caloric intake from the three major macronutrient groups: protein, fats, and carbohydrates	Total caloric value of each macronutrient	Total calories consumed	Population-based survey	INDDEX Project https://inddex.nutrition.tufts.edu/data4diets/indicator/total-individual-macronutrient-intake
68	**Micronutrient intake**	Percentage of caloric intake from micronutrients	daily intake of individual micronutrients (mg/day)	Total calories consumed	Population-based survey	INDDEX Project https://inddex.nutrition.tufts.edu/data4diets/indicator/total-individual-micronutrient-intake
Household Food & Water Insecurity						
69	**Food Insecurity Experience Scale (FIES) Module: Prevalence rates of food insecurity**	Prevalence of experienced food insecurity at moderate or severe levels	Number of households classified as being moderately or severely food insecure	Total number of households	Population-based survey	FAO. 2016. Methods for estimating comparable rates of food insecurity experienced by adults throughout the world. Rome, FAO. https://www.fao.org/3/i4830e/i4830e.pdf
70	**Household Water Insecurity Experiences (HWISE) scale: Proportion of water-insecure households**	Proportion of households with inability to access and benefit from affordable, adequate, reliable and safe water for wellbeing and a healthy life	Number of households with Household Water Insecurity Experiences (HWISE) scores ≥12	Total number of households	Population-based survey	User manual: Household Water Insecurity Experiences Scale. https://www.fsnnetwork.org/sites/default/files/2020-10/User%20Guide%20Household%20Water%20Insecurity%20Experiences.pdf

	Indicators	Definition	Numerator	Denominator	Source Type	Source
Intervention Coverage: Non-Pregnant Women and Adolescents						
71	**Preventive iron supplementation – non-pregnant WRA**	Among non-pregnant women ages 15-49 years, percentage who were given or bought any iron-containing supplements in the last 6 months.	Number of non-pregnant women age 15-49 years who were given or bought any iron-containing supplement in the last 6 months	Total number of non-pregnant women age 15-49 years in the last 6 months surveyed	Population-based survey	Compendium of Nutrition Intervention Coverage Indicators & Questions for Household Surveys. Baltimore: Data for Decisions to Expand Nutrition Transformation (DataDENT), 2021. https://datadent.org/wp-content/uploads/2021/08/HH-Compendium_12-Aug_FINAL.pdf
72	**Preventive iron supplementation – girls in early adolescence**	Among non-pregnant girls ages 10-14 years, percentage who were given or bought any iron-containing supplements in the last 6 months.	Number of non-pregnant girls age 10-14 years who were given or bought any iron-containing supplement in the last 6 months	Total number of non-pregnant girls age 10-14 years in the last 6 months surveyed	Population-based survey	
73	**Antenatal Care Coverage (at least one visit)**	Percentage of women aged 15 – 49 with a live birth in a given period of time that received antenatal care provided by skilled health personnel (doctor, nurse or midwife) at least once during pregnancy.	Number of women aged 15–49 years with a live birth in a given time period who received antenatal care at least once during pregnancy	Total number of women aged 15–49 years with a live birth in the same period	Population-based survey	UNICEF https://data.unicef.org/topic/maternal-health/antenatal-care/
74	**Antenatal Care Coverage (at least four visits)**	Percent of women aged 15–49 years with a live birth in a given time period who received antenatal care four times or more.	Number of women aged 15–49 years with a live birth in a given time period who received antenatal care four or more times.	Total number of women aged 15–49 years with a live birth in the same period.	Population-based survey	Measure Evaluation https://www.measureevaluation.org/rbf/indicator-collections/service-use-and-coverage-indicators/antenatal-care-coverage.html
75	**Antenatal Care Coverage (at least four visits)**	Percentage of women aged 15–49 years with a live birth in a given time period who received antenatal care, four times or more.	Number of women aged 15–49 years with a live birth in a given time period who received antenatal care four or more times.	Total number of women aged 15–49 years with a live birth in the same period.	Population-based survey	
76	**Intermittent preventive treatment (IPTp) for malaria during pregnancy**	Percentage of women who received three or more doses of intermittent preventive treatment during antenatal care visits during their last pregnancy.	Number of women receiving three or more doses of recommended treatment.	Total number of pregnant women/surveyed with a live birth in the last 2 years.	Population-based survey	Measure Evaluation https://www.measureevaluation.org/rbf/indicator-collections/service-use-and-coverage-indicators/intermittent-preventive-therapy-for-malaria-during-pregnancy.html

	Indicators	Definition	Numerator	Denominator	Source Type	Source
Intervention Coverage: Pregnancy						
77	**Iron Folic Acid supplementation during pregnancy**	Percentage of women age 15-49 with a live birth and/or stillbirth in the last 2 years, percentage who took any iron-containing supplement during pregnancy for the most recent live birth and/or stillbirth.	Number of women age 15-49 years with a live birth and/or stillbirth in the last 2 years surveyed who took any iron-containing supplement during pregnancy for the most recent live birth and/or stillbirth	Total number of women age 15-49 years with a live birth and/or stillbirth in the last 2 years surveyed	Population-based survey	Compendium of Nutrition Intervention Coverage Indicators & Questions for Household Surveys. Baltimore: Data for Decisions to Expand Nutrition Transformation (DataDENT), 2021. https://datadent.org/wp-content/uploads/2021/08/HH-Compendium_12-Aug_FINAL.pdf
78	**Multiple Micronutrient Supplementation (MMS) during pregnancy**	Among women age 15-49 years with a live birth and/or stillbirth in the last 2 years, percentage who took any multiple micronutrients containing iron during pregnancy for the most recent live birth and/or stillbirth.	Number of women age 15-49 years with a live birth and/or stillbirth in the last 2 years surveyed who took multiple micronutrients containing iron during pregnancy for the most recent live birth and/or stillbirth	Total number of women age 15-49 years with a live birth and/or stillbirth in the last 2 years surveyed	Population-based survey	
79	**MIYCN counselling during ANC: Counselling about maternal diet during pregnancy**	Among women age 15-49 who received ANC for their most recent live birth in the last 2 years, percentage that received information about maternal diet.	Number of women age 15-49 years who received ANC for their most recent live birth in the last 2 years and received information about maternal diet	Total number of women age 15-49 years with a live birth in the last 2 years who received ANC for their most recent birth surveyed.	Population-based survey	
80	**MIYCN counselling during pregnancy: Counselling about breastfeeding received during pregnancy**	Among women age 15-49 who received ANC for their most recent live birth in the last 2 years, percentage that received information about breastfeeding.	Number of women age 15-49 years who received ANC for their most recent live birth in the last 2 years and received information about breastfeeding	Total number of women age 15-49 years with a live birth in the last 2 years who received ANC for their most recent birth surveyed.	Population-based survey	Compendium of Nutrition Intervention Coverage Indicators & Questions for Household Surveys. Baltimore: Data for Decisions to Expand Nutrition Transformation (DataDENT), 2021. https://datadent.org/wp-content/uploads/2021/08/HH-Compendium_12-Aug_FINAL.pdf
81	**Monitoring women's weight gain**	Among women age 15-49 who had at least two or more ANC visits for their most recent live birth in the last 2 years, percentage that reported their weight being measured over at least two ANC visits.	Number of women age 15-49 years who received ANC for their most recent live birth in the last 2 years and was weighed during at least two or more ANC visits.	Total number of women age 15-49 years with a live birth in the last 2 years who had two or more ANC visits for their most recent birth surveyed	Population-based survey	

	Indicators	Definition	Numerator	Denominator	Source Type	Source
Intervention Coverage: Delivery & Postnatal Care						
82	**Delivered by skilled attendant: Births attended by skilled health personnel**	Percent of live births attended by skilled health personnel during a specified time period.	Number of births attended by skilled health personnel (doctors, nurses, or midwives) trained in providing life-saving obstetric care, including giving the necessary supervision, care and advice to women during pregnancy, childbirth and the postpartum period, to conduct deliveries on their own, and to care for newborns.	The total number of live births in the same period	Administrative or Population-based survey	Measure Evaluation https://www.measureevaluation.org/rbf/indicator-collections/service-use-and-coverage-indicators/births-attended-by-skilled-health-personnel.html
83	**MIYCN counselling during postnatal care (PNC)**	Among the last live births in the 2 years preceding the survey, percentage for whom counselling on breastfeeding was performed during the first two days after birth.	Number of last live births in the previous 2 years surveyed who received counselling on breastfeeding during the first 2 days after birth	Total number of most recent live births in the previous 2 years	Population-based survey	Compendium of Nutrition Intervention Coverage Indicators & Questions for Household Surveys. Baltimore: Data for Decisions to Expand Nutrition Transformation (DataDENT), 2021. https://datadent.org/wp-content/uploads/2021/08/HH-Compendium_12-Aug_FINAL.pdf
84	**Counselling on infant and young child feeding**	Among children 6-23 months old, percentage with caregivers who talked with a healthcare provider about how or what to feed their child in the last 6 months.	Number of children 6-23 months whose caregiver talked with a healthcare provider about how or what to feed their child in the last 6 months	Total number of children 6-23 months surveyed	Population-based survey	
Intervention Coverage: Child Malnutrition Prevention & Growth Promotion						
85	**High-dose vitamin A supplementation (6-59m) (recall only)**	Among children age [6-23, 6-59] months, percentage given a high-dose Vitamin A supplement in the last 6 months.	Number of children [6-23, 6-59] months who were given a vitamin A supplement in the last 6 months based on recall	Total number of children [6-23, 6-59] months surveyed	Population-based survey	Compendium of Nutrition Intervention Coverage Indicators & Questions for Household Surveys. Baltimore: Data for Decisions to Expand Nutrition Transformation (DataDENT), 2021. https://datadent.org/wp-content/uploads/2021/08/HH-Compendium_12-Aug_FINAL.pdf
86	**High-dose vitamin A supplementation in children (6-59m) (vaccine record only)**	Among children age [6-23, 6-59] months, percentage given a high-dose Vitamin A supplement based on documentation of vitamin A dose received.	Number of children [6-23, 6-59] months who were given a vitamin A supplement in the last 6 months based on vaccine record	Total number of children [6-23, 6-59] months surveyed	Population-based survey	
87	**High-dose vitamin A supplementation in children (6-59m) (recall and vaccine record)**	Among children age [6-23, 6-59] months, percentage given a high-dose Vitamin A supplement in the last 6 months with documentation of vitamin A dose received.	Number of children [6-23, 6-59] months who were given a vitamin A supplement in the last 6 months surveyed and documentation of vitamin A dose is received	Total number of children [6-23, 6-59] months surveyed	Population-based survey	
88	**Child growth monitoring**	Percentage of children [0-23, 0-59] months who had their weight and length/height or MUAC measured in the last 3 months.	Number of children [0-23, 0-59] months who had their weight and length/height or MUAC measured in the last 3 months	Total number of children [0-23, 0-59] months surveyed	Population-based survey	

	Indicators	Definition	Numerator	Denominator	Source Type	Source
Intervention Coverage: Child Malnutrition Prevention & Growth Promotion						
89	**Wasting screening**	Percentage of children [0-23, 0-59] months who had their MUAC measured in the last 3 months	Number of children [0-23, 0-59] months who had their MUAC measured in the last 3 months	Total number of children [0-23, 0-59] months	Population-based survey	Compendium of Nutrition Intervention Coverage Indicators & Questions for Household Surveys. Baltimore: Data for Decisions to Expand Nutrition Transformation (DataDENT), 2021. https://datadent.org/wp-content/uploads/2021/08/HH-Compendium_12-Aug_FINAL.pdf
90	**Food supplementation for complementary feeding (children 6-23 months)**	Among children 6-23 months, percentage given any complementary food supplements in the last X months (time period should reflect context/programme implemented).	Number of children age 6-23 months given complementary food from any public programme in the last X months	Total number of children 6-23 months surveyed	Population-based survey	Compendium of Nutrition Intervention Coverage Indicators & Questions for Household Surveys. Baltimore: Data for Decisions to Expand Nutrition Transformation (DataDENT), 2021. https://datadent.org/wp-content/uploads/2021/08/HH-Compendium_12-Aug_FINAL.pdf
91	**Micronutrient powder (MNP) supplementation**	Among children age [6-23, 6-59] months, percentage given [local names for MNP] in the last 12 months.	Number of children [6-23, 6-59] months who were given MNP in the last 12 months	Total number of children [6-23, 6-59] months surveyed	Population-based survey	
92	**Child iron supplementation**	Among children age [6-23, 6-59] months, percentage given any iron-containing supplements (iron tablets, iron syrup, iron powder, MNP) in last 12 months.	Number of children [6-23, 6-59] months who were given any iron-containing supplement in the last 12 months	Total number of children [6-23, 6-59] months surveyed	Population-based survey	
93	**Deworming in children**	Proportion of children 12-59 months who received deworming medication in the previous 6 months.	Number of children 12-59 months who received deworming medication in the previous 6 months	Total number of children 12-59 months surveyed	Population-based survey	OCHA Services https://ir.hpc.tools/applications/ir/indicator/n-068
94	**Child slept under a net/LLIN**	Proportion of children less than 5 years reporting having slept last night under an ITN/LLIN .	Number of children less than age 5 slept under an ITN the night before the survey	Total number of children less than 5 years surveyed	Population-based survey	WHO http://apps.who.int/iris/bitstream/handle/10665/259478/WHO-HTM-GMP-2017.20-eng.pdf;jsessionid=7BD4C1AF-B72F1F5DAA7988A2D-7C2EC8A?sequence=1

	Indicators	Definition	Numerator	Denominator	Source Type	Source
95	**Small Quantity - Lipid Nutrient Supplements (SQ-LNS)**	Proportion of children 6-23 months who received SQ-LNS	Number of children age 6-23 months given complementary food from any public program in the last X months	Total number of children 6-23 months surveyed	Population-based survey	Compendium of Nutrition Intervention Coverage Indicators & Questions for Household Surveys. Baltimore: Data for Decisions to Expand Nutrition Transformation (DataDENT), 2021. https://datadent.org/wp-content/uploads/2021/08/HH-Compendium_12-Aug_FINAL.pdf
Intervention Coverage: Child Treatment						
96	**Zinc supplementation with ORS to treat diarrhoea**	Among children under 5 who had diarrhoea in the 2 weeks preceding the survey, the percentage given fluid from an ORS packet or pre-packaged ORS fluid and zinc.	Number of children under age 5 who had diarrhoea in the 2 weeks preceding the interview and were given fluid from an ORS packet or pre-packaged ORS fluid and zinc	Total number of children under age 5 with diarrhoea in the 2 weeks preceding the interview surveyed	Population-based survey	Compendium of Nutrition Intervention Coverage Indicators & Questions for Household Surveys. Baltimore: Data for Decisions to Expand Nutrition Transformation (DataDENT), 2021. https://datadent.org/wp-content/uploads/2021/08/HH-Compendium_12-Aug_FINAL.pdf
97	**Coverage of diarrhoea treatment**	Percentage of children under 5 years of age with diarrhoea in the last two weeks receiving ORS (fluids made from ORS packets or pre-packaged ORS fluids)	Number of children under 5 years of age with diarrhoea in the two weeks preceding the survey given fluid from ORS packets or pre-packaged ORS fluids	Number of children with diarrhoea in the two weeks preceding the survey	Population-based survey	Global Nutrition Monitoring Framework: Operational guidance for tracking progress in meeting targets for 2025. Geneva: World Health Organization; 2017. https://www.who.int/publications/i/item/9789241513609

	Indicators	Definition	Numerator	Denominator	Source Type	Source
Intervention Coverage: Child Treatment						
98	**MAM Treatment: admitted for treatment**	Children 0-59 months with moderate wasting admitted in supplementary feeding programme (SFP)	Number of children 0-59 months with moderate wasting	Total number of children who were screened	Administrative	UNCIEF DHIS 2 Core Maodule: Nutrition Aggregate Package Metadate File https://dhis2.org/metadata-package-downloads/
99	**Management of moderate wasting / acute malnutrition (MAM)**	Outcome of children 0-59 months with moderate wasting while on supplementary feeding programme (SFP)	Number of children 0-59 months with moderate wasting who […] while on SFP — died — defaulted treatment — Did not respond to treatment/child did not meet discharge criteria — Child who recovered	Total number of children 0-59 months who were admitted in SFP	Administrative	
100	**SAM: Referred to inpatient care**	Children 0-59 months with severe wasting referred to inpatient care because of medical complication	Number of children 0-59 months with severe wasting and with medical complications	Total number of children who were screened	Administrative	
101	**SAM: Admitted for treatment in health facility**	Children 0-59 months with severe wasting admitted in therapeutic feeding programme due to severity of wasting	Number of children 0-59 months with severe wasting of MUAC <11.5 cm or weight-for-age <-3SD Z score or nutritional oedema	Total number of children who were screened	Administrative	
102	**Management of severe wasting / acute malnutrition (SAM)**	Outcome of children 0-59 months with moderate wasting while on supplementary feeding programme (SFP)	Number of children 0-59 months with severe wasting who […] while on therapeutic feeding program — died — defaulted treatment — Did not respond to treatment/child did not meet discharge criteria — Child who recovered	Total number of children 0-59 months who were admitted in therapeutic feeding program	Administrative	
Readiness of nutrition interventions in health sector						
103	**Nutrition commodities**	Percent of health facilities with uninterrupted stocks of oral rehydration salts, zinc, (other nutrition commodities) in the past 3 months.	Number of facilities with stocks of oral rehydration salts, zinc, (other nutrition commodities) in the past 3 months.	All facilities providing child health services	Administrative	Measure Evaluation https://www.measureevaluation.org/rbf/indicator-collections/structural-indicators/percentage-of-health-facilities-with-uninterrupted-stocks-of-vaccines-oral-rehydration-salts-zinc-antimalarial-and-antiretroviral-agents-and-injectable-gentamicin.html

	Indicators	Definition	Numerator	Denominator	Source Type	Source
104	**Nutrition professionals**	The number of trained nutrition professionals per 100,000 population in the country in a specified year	Number of nutritionists and dietitians employed in a nutrition-related role in government and non-government sectors in the country in a specified year	Total population mid-year in the specified year	Administrative	WHO- Nutrition Landscape Information System (NLiS) https://www.who.int/data/nutrition/nlis/info/nutrition-professionals-density
Coverage of nutrition-relevant interventions outside the health sector						
105	**Safely managed drinking water services**	Proportion of population using an improved drinking water source (Ladder: Safely managed, basic, limited, unimproved, surface water)	Number of population using an improved drinking water source which is accessible on premises, available when needed, and free from faecal and priority chemical contamination. 'Improved' drinking water sources include: — piped supplies, — boreholes and tubewells, — protected dug wells, — protected springs, — rainwater, — water kiosks, and — packaged and delivered water	Total number of households (or population)	Population-based survey	WHO-UNICEF JMP https://washdata.org/
106	**Sanitation services**	Proportion of population using an improved sanitation facility that is not shared with other households and where excreta are safely disposed of in situ or treated off site (Ladder: safely managed, basic, limited, unimproved, open defecation)	Number of households (or population) with safely managed sanitation services. Improved facilities include — flush or pour flush toilets to sewerage systems — septic tanks — pit latrines, — improved pit latrines (latrines with slab or ventilated pit latrines) and — composting toilets	Total number of households (or population)	Population-based survey	WHO-UNICEF JMP https://washdata.org/
107	**Hygiene services**	Proportion of the population with a handwashing facility with soap and water available at home. (Ladder: basic, limited, no facility)	Number of households (or population) with a handwashing facility located within the dwelling, yard or plot with soap and water available at home. Handwashing facilities may be: — fixed or mobile — a sink with tap water, — buckets with taps, tippy-taps, jugs or basins designated for handwashing Soap includes — bar soap, — liquid soap, — powder detergent, — soapy water	Total number of households (or population)	Population-based survey	

	Indicators	Definition	Numerator	Denominator	Source Type	Source
Coverage of nutrition-relevant interventions outside the health sector						
108	**Social assistance programs**	Percentage of population participating in social protection and labour programmes (includes direct and indirect beneficiaries). NOTE: Nutrition-sensitive social protection coverage indicators will be forthcoming in 2023. See DataDENT website	Number of individuals, in the entire population, by program type, or by quintiles of the welfare distribution, who live in a household where at least one member receives a transfer: Transfer program types can be – Social assistance – Social insurance – Labor market	Total number of individuals or individuals in that quintile	Population-based survey	World Bank – ASPIRE https://www.worldbank.org/en/data/datatopics/aspire/documentation NOTE: Nutrition-sensitive social protection coverage indicators will be forthcoming in 2023. See DataDENT website

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