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HEALTH SECTOR COMPONENT OF NATIONAL POLICY ON FOOD AND NUTRITION

NATIONAL STRATEGIC PLAN OF ACTION FOR

NUTRITION

(2021 - 2025)

September 2021

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List of Abbreviations and Acronyms

ANC - Antenatal care

ANRiN – Accelerating Nutrition Results in Nigeria

ARV – Anti Retroviral

BCC - Behaviour Change Communication

BFCI - Baby-Friendly Community Initiative

BFI – Baby Friendly Initiative

BFHI - Baby-Friendly Hospital Initiative

BMI – Body Mass Index

BP – Blood Pressure

CBO - Community-Based Organization

CBRN – Chemical Biological Radiological and Nuclear

CHW - Community Health Worker

CIYCF - Community-Based Infant and Young Child Feeding

CMAM - Community Management of Acute Malnutrition

CSB – Corn-Soya Blend

CSCMP – Council of Supply Chain Professionals

CSM – Corn-Soya Milk

CSO - Civil Society Organization

CS-SUNN – Civil Society Scaling Up Nutrition in Nigeria

DASH – Dietary Approaches to Stop Hypertension

DPRS - Department of Planning, Research, and Statistics

DRNCD - Diet Related Non-Communicable Diseases

EBF - Exclusive Breastfeeding

ENAs - Essential Nutrition Actions

FAO - Food and Agriculture Organization of the United Nations

FBFs – Fortified Blended Foods

FBO - Faith-Based Organization

FCT - Federal Capital Territory

FMB&NP – Federal Ministry of Budget and National Planning

FMOH - Federal Ministry of Health

GAIN - Global Alliance for Improved Nutrition

GDP - Gross Domestic Product

GMP - Growth Monitoring Promotion

HIV - Human Immunodeficiency Virus

HMIS - Health Management Information System

ICT - Information and Communication Technology

IDA – Iron Deficiency Anaemia

IEC - Information, Education, and Communication

IFA - Iron and Folic Acid

IFAD - International Fund for Agricultural Development

IFPRI - International Food Policy Research Institute

IHP - Integrated health programme

IMAM – Integrated Management of Acute Malnutrition

IMCI - Integrated Management of Childhood Illnesses

IUGR - Intra-Uterine Growth Restriction

IYCF - Infant and Young Child Feeding

Kcal - Kilocalorie

LBW - Low Birth Weight

LGA - Local Government Area

LMCU - Logistics Management Coordinating Unit

Nut-CLMS – Nutrition Commodities Logistics Management Systems

MAM – Moderate Acute Malnutrition

M&E - Monitoring and Evaluation

MICS - Multiple Indicator Cluster Survey

MIYCN – Maternal Infant and Young Child Nutrition

MNCH - Maternal, Newborn, and Child Health

MNDC - Micronutrient Deficiency Control

MNP – Micronutrient Powder

MUAC - Mid-Upper Arm Circumference

NAFDAC - National Agency for Food and Drug Administration and Control

NBS - National Bureau of Statistics

NCDs – Non- Communicable Diseases

NCFN - National Committee on Food and Nutrition

NCN – National Council on Nutrition

NDHS - Nigeria Demographic and Health Survey

NEC – National Executive Council

NFNP - National Food and Nutrition Policy

NGN - Nigerian Naira

NGO - Non-Governmental Organization

NHLMIS – National Health Logistics Management Information System

NIE – Nutrition in Emergency

NIS - Nutrition Information System

NPC - National Planning Commission

NPHCDA - National Primary Healthcare Development Agency

NSHDP - National Strategic Health Development Plan

NSPAN - National Strategic Plan of Action for Nutrition

NSS - Nutrition Surveillance System

ORS - Oral rehydration salts

OTP - Outpatient Therapeutic Programme

PEM – Protein Energy Malnutrition

PHC - Primary Healthcare Centers

QoC - Quality of care

RUTF – Ready-to-Use Therapeutic Food

SAM – Severe Acute Malnutrition

SBCC – Social Behavioral Change Communication

SCFN – State Committee on Food and Nutrition

SD – Standard Deviation

SDGs – Sustainable Development Goals

SFPs – Supplementary Feeding Programmes

SMART – Standardized Monitoring and Assessment of Relief and Transition

SMOH- State Ministry of Health

SNF – Special Nutrition Foods

SOMIL - Save the One million lives

SPHCDA – State Primary Health Care Development Agency

SPRING - Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) project.

SQ-LNS – Small Quantity Lipid-based Supplement

SUN – Scaling-Up Nutrition

TFPs – Therapeutic Feeding Programmes

TWG – Technical Work Group

UN – United Nations

UNDP – United Nations Development Programme

UNICEF – United Nations International Children's Emergency Fund

USAID – United State Agency for International Development

VAD – Vitamin A Deficiency

VLBW – Very Low Birth Weight

WDC – Ward Development Committee

WHO – World Health Organization

FOREWORD

Nutrition contributes to health and wellbeing, as poor nutrition results in poor health outcomes. Malnutrition has not only contributed to poor health indices in Nigeria, it has also affected the Nation's social and economic development.

The National Strategic Plan of Action on Nutrition (2021-2025) was developed by the Federal Ministry of Health as the health sector response to the National Policy on Food and Nutrition (2016). It also aligns with the National Multisectoral Plan of Action on Food and Nutrition (NMPFAN) and the National Strategic Health Development Plan (NSHDP II).

The implementation of the NSPAN I has contributed to some improvement in the nations nutrition indices. Exclusive breastfeeding rate (EBF) increased from 17% to 29%, wasting rate also reduced from 18% to 7% (NDHS, 2013; 2018) respectively. There was also increased uptake of iron supplementation by women for 90 days or more which increased from 21% to 31% as well as women taking deworming medication during pregnancy which increased from 14% to 17% (NDHS, 2013 & 2018).

The NSPAN II consolidates on the success of the NSPAN I (2014-2019) and bridges the gaps towards achieving current global trends and innovations. The inclusion of Nutrition in Emergency as a thematic area is worthy of note. The NSPAN II improves on the previous NSPAN by addressing the entire life course, with the addition of Adolescent and Elderly Nutrition. It has been developed with wide Stakeholder participation.

The vision of the NSPAN II is a nation with optimal nutrition for all her citizens along the life course contributing to their well- being and human, cognitive, and economic development.

The need to address more priority areas in the life course approach with the effects of the gaps identified in the NSPAN I made it possible to develop NSPAN II 2021-2025 towards meeting the goal of decade of Action on Nutrition and Sustainable Development Agenda.

The successful implementation of this Strategic Plan of Action will depend on the sustained commitment of resources at the different levels of government by all players in the Nutrition space. The costing is to encourage resource mobilization and resource allocation with the aim of promoting high impact interventions. Hopefully, this will guide all relevant stakeholders and Development Partners investing in Nutrition across the eight thematic areas.

I therefore call upon all Nigerians, the public and private sector, Civil Society, Faith Based Organizations, Development Partners and other Stakeholders to support the implementation of the NSPAN II and align all programmes and interventions to it for a unified response to the Nutrition situation in the country.

Effective implementation of this plan will not only result in improved nutritional and health outcomes for all Nigerians, it will also have a great impact on our nation's human capital development.

Dr. Osagie E. Ehanire
Honourable Minister of Health,
September, 2021

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Executive Summary

Nigeria, is faced with the triple burden of malnutrition, which is the simultaneous manifestation of both undernutrition, micronutrient deficiency, overweight and obesity. Of significance is the growing emergence of over nutrition alongside the challenges of undernutrition, and since most of the interventions are often focused on the latter, the existence of binary forms of malnutrition manifesting at the household level, should be a source of concern to Nigeria's policy makers.

Nigeria is the most populous nation in Africa with over 200 million people in 2021(United Nations, 2020), and with a growth rate of 2.6 percent (UNICEF, 2017), it is projected to become the third most populous country in the world in 2050, after India and China (Population Reference Bureau 2013). Nigeria is ranked 145th out of 157 countries in progress toward meeting the Sustainable Development Goals (SDGs) (Sachs *et al*. 2017).

According to the World Bank, Nigeria's economy is the largest in Africa but in spite of this, poverty has remained significant, with increasing inequity and regional disparities. A report on poverty and inequality from September 2018 to October 2019, classified 40.1 percent of total population as poor, highlighting the low levels of wealth in a country that has Africa's biggest economy. This translates to over 82.9 million Nigerians who live on less than $1 a day and are considered poor by national standards (The National Bureau of Statistics (NBS) 2020). Nigeria's economy is largely dependent on oil and gas extraction and the sharp decline in oil prices beginning in 2014 has posed major challenges to the country's finances (USAID, 2018).

The National Strategic Plan of Action for Nutrition (NSPAN II), 2021-2025, succeeds the 2014-2019 edition and has been designed to assume the life course strategy to achieve optimal nutrition with particular emphasis on the first 1000 days of life and other vulnerable groups. This edition has been developed to provide programming guides and address the relevant objectives and key targets of the National Food and Nutrition Policy including adolescents, and the elderly age cohorts that were not the subject of focus in the last NSPAN.

In addition, NSPAN II focuses on eight areas of interventions and targets, espoused in the National Food and Nutrition Policy document. These include Maternal Infant and Young Child Nutrition, School Age, Adolescent, and the Elderly Nutrition, Integrated Management of Moderate and Acute Malnutrition in Children aged 6- 59 months, Micronutrient Deficiency Control, Diet Related Non-Communicable Diseases, Nutrition Information Systems, Nutrition in Emergency, as well as Nutrition Logistics Commodities Management Systems.

The estimated national resource requirement for the implementation of the intervention component of the plan is NGN 211.5 billion (USD 515.5 million) and NGN 289.6 billion (USD 706.4 million) for moderate and ambitious scenarios respectively. The Federal component of the programme management cost is estimated at NGN 4.95 billion (USD 12.1 million). States will be required to develop their respective programme activity cost by adapting the ingredient approach used for the Federal.

1.0 Introduction

1.1 Rationale

Nigeria, is faced with the triple burden of malnutrition, which is the simultaneous manifestation of both undernutrition, micronutrient deficiency, and overweight and obesity (Gustafson, 2021). This is a big concern as the country is still grappling with the challenges of undernutrition, and most of the interventions are often focused in this direction and thus the existence of triple forms of malnutrition manifesting at the household level, especially in areas of low economic status (Alamu, *et al* , 2020), should be a source of concern to Nigeria's policy makers.

Malnutrition has remained a significant public health problem in the country which is also home to the highest number of stunted children in the continent and ranks second globally, with more than 10 million stunted children (UNICEF, 2021). The 2018 Nigeria Demographic and Health Survey (NDHS) reported 37% of Nigerian children aged 6-59 months are stunted (short for their age- indicative of chronic malnutrition), 7% are wasted (thin for their height- indicative of acute malnutrition), 22% are underweight (thin for their age), and 2% are overweight (heavy for their height) while only 11% of children aged 6- 23 months were fed with minimum acceptable diet. The report also shows that 68% of children aged 6-59 months and 58% of women aged 15-49 are anaemic (NDHS 2018).

The causes of malnutrition and food insecurity in Nigeria are multifaceted and include poor infant and young child feeding practices, which contribute to high rates of illness and poor nutrition among children under 2 years, lack of access to healthcare, water and sanitation, and armed conflict, particularly in the north (UNICEF, 2018). Some underlying causes include poverty, inadequate food production and intake, ignorance and uneven distribution of food, poor food preservation techniques, improper preparation of foods, food restrictions and taboos, and poor sanitation (SWAC/OECD 2020).

The second National Strategic Plan for Nutrition, 2021-2025 (NSPAN II), succeeds the 2014-2019 strategic plan. It is the health sector's response to the National Policy on Food and Nutrition. NSPAN II also builds on other strategic documents such as the 2020 National Multisectoral Plan for Food and Nutrition, (NMPFAN), the National Strategic Health Development Plan for 2018-2022, the National Policy on Maternal Infant and Young Child Nutrition (2021) and National Guidelines for the Prevention and Control of Micronutrient Deficiencies (2021).

The Plan has been designed to achieve optimal nutrition for all Nigerians with priority on the vulnerable; children under-five years, school-age children, adolescents, women of reproductive age, elderly, people in exceptionally difficult circumstances (EDC).

2.0 Background

2.1 Country Profile

Nigeria with a total land area of 923,000 square kilometers is bordered by Niger and Chad to the north, Cameroon to the east, and Benin to the west, with approximately 850 kilometers of coastline on the Gulf of Guinea to the south. It is divided into 36 States, plus the Federal Capital Territory (FCT) and further subdivided into 774 Local Government Areas (LGAs). The States are grouped into six distinct geopolitical zones— North Central, North East, North West, South East, South South, and South West (*Nigeria*, 2021).

Nigeria spans 10 degrees of latitude and zero to nearly 2,500 meters of altitude, resulting in a wide range of agro-ecological conditions from semiarid in the north to tropical and humid in the south. The topography of the country is characterized by high plateau in the north, which slopes to the lowlands of the Niger River Delta along the coast in the south. The Niger River, which is the largest in the West African region, drains a watershed of approximately 2 million square kilometers and is a defining geographic feature of Nigeria (Kuku-Shittu *et al,* 2013; Mabogunje, A. L., 2019).

With a population of over 200million people (UN, 2020), Nigeria account for about half of West Africa's population and the country displays a high degree of ethnic diversity with more than 250 distinct ethnic groups. Nigeria is a multi-ethnic and culturally diverse federation which consists of 36 autonomous states and the Federal Capital Territory. Although the official language is English, more than 500 indigenous languages and dialects are spoken across the country. The most widely spoken indigenous languages are those of the prominent ethnic groups of Hausa, Igbo and Yoruba (World Population Review, 2021).

Nigeria is considered a lower-middle-income country with a national Gross Domestic Product (GDP) of $ 432.29billion and national per capita GDP of $ 2,073.78 as at 2020 (UNDP, 2020). While the country has made some progress in socio-economic terms in recent years, the country is still ranked low in Human Development category in the UNDP's 2020 Human Development Index as it was ranked 161 out of 189 countries (UNDP, 2020). A significant proportion of the population still live in poverty, without adequate access to basic services, and could benefit from more inclusive development policies. Furthermore, the country continues to face massive developmental challenges, insurgency, banditry and insecurity. The National Bureau of Statistics (NBS) classified 40.1 percent of total population as poor and this translates to over 82.9 million Nigerians who live on less than $1 a day. (NBS, 2019)
The situation has been further worsened by the COVID-19 global pandemic, which has created negative shocks across multiple sectors and systems. The effects are further driving and exacerbating existing inequalities, wreaking havoc on the gains of nutrition, health, resilience, and food security programs. (GAIN, 2021)

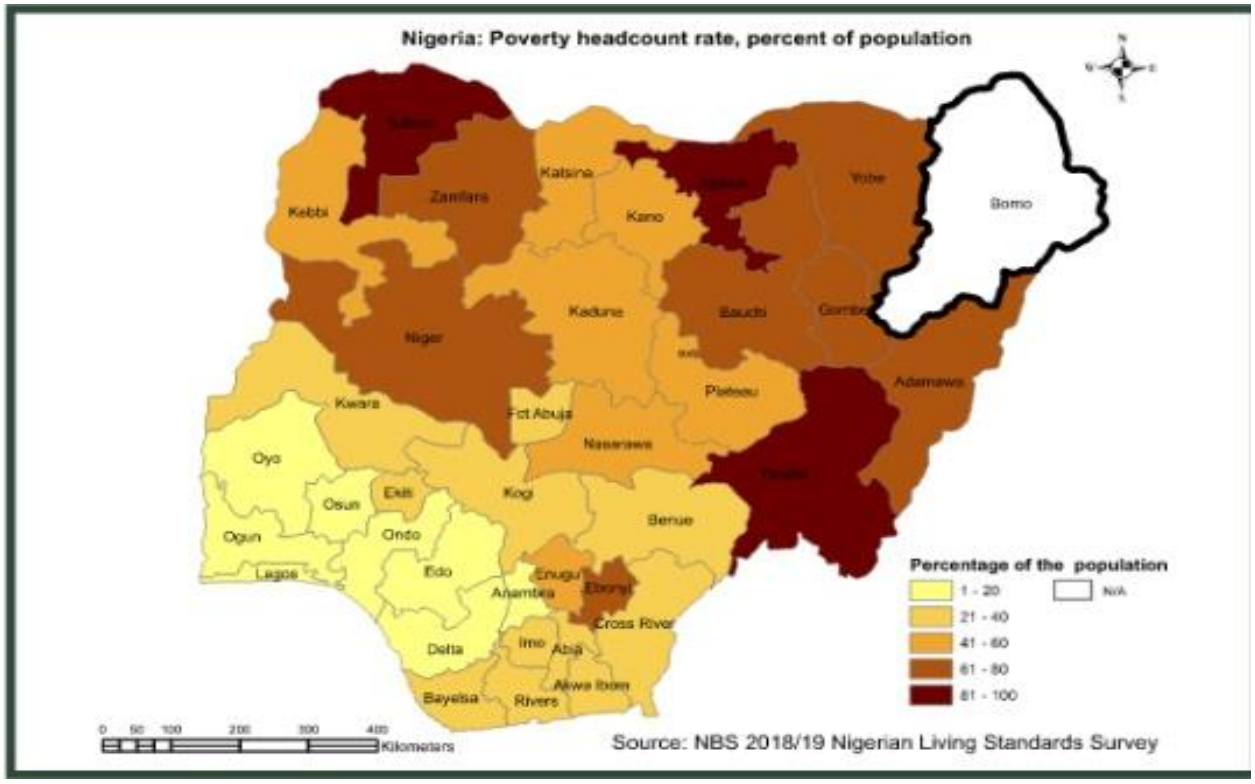

Figure 1- Poverty distribution by States in Nigeria. Source: NDHS, 2018

On the production side, (Pwc, 2017) growth has primarily been driven by services, and agricultural growth remains below potential due to continued insurgency in the Northeast and ongoing farmer-herdsmen conflicts.

The impact of COVID-19 on food and nutrition showed that 15 months after the first cases of COVID-19 were recorded in the country, there were income losses, trade disruptions and increasing food prices brought about by disruptions in the food system, further heightened by violent clashes between herders and farmers, banditry and kidnappings (GAIN, 2021). COVID-19-related disruptions created supply shocks, which continue to translate into high food prices and the average prices of selected staple foods, both year-on-year and month-on-month (GAIN, 2021). As a result of this, the Nigerian Government signed an agreement with the International Funds for Agricultural Development to help small-scale farmers in seven northern states that target more than 8,000 vulnerable smallholders with high yielding seeds of high–nutritional value to help farmers address the impact of the pandemic on Nigerian agriculture and food security (IFAD, 2021).

Nutrition Situation in Nigeria

Malnutrition remains a significant public health problem. The country has the highest number of stunted children under age five in sub-Saharan Africa, and the second highest in the world (REF). The 2018 Nigeria Demographic Health Survey indicate that 37% of children under age

five are stunted (too short for their age) and 17% are severely stunted. Seven percent are wasted (too thin for their height), with 2% being severely wasted. Twenty-two percent of children are underweight (too thin for their age), and 7% are severely underweight.

There are wide variations by zone in the prevalence of stunting. The survey shows prevalence of stunting increase from 19% among children less than 6 months to a peak of 47% among children age 24-35 months. This represents the impact of undernutrition in the first 1,000 days of life. Wasting, on the other hand, is more prevalent (15%) among children age 9-11 months. The proportion of children who are stunted is highest in the North West (57%) and lowest in the South East (18%). By state, stunting is most prevalent in Kebbi (66%) and least prevalent in Anambra (14%) (see figure 2 showing distribution of stunting by state). The proportion of children who are wasted is approximately twice as high in the North East (10%) and North West (9%) as in the other zones (4%-6%) (see figure 3 showing distribution of wasting by state). On the whole, the prevalence of stunting, wasting, and underweight is almost twice as high among children in rural areas (45%, 8%, and 27%, respectively) as among those in urban areas (27%, 5%, and 15%, respectively). The proportion of women of reproductive age who are overweight or obese has increased from 22% in 2008 to 28% in 2018 and 56% of the women consumed food from five or more of the 10 total food groups. (NDHS 2018)

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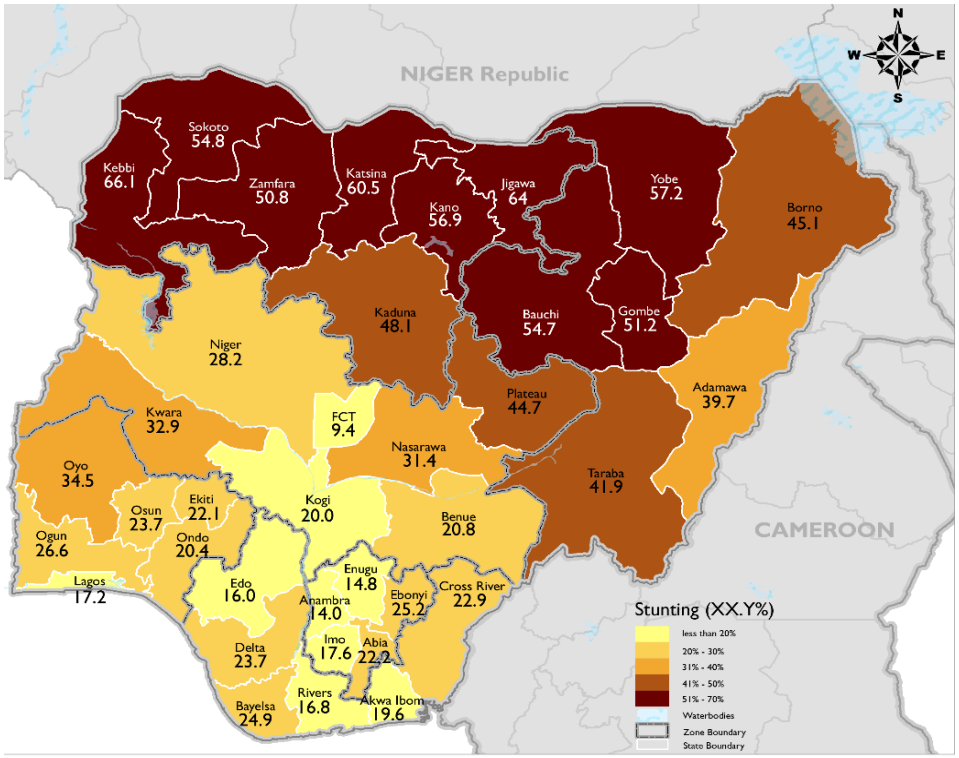


Figure 2: Map of Nigeria showing the distribution of Stunting by state. Source: NDHS,2018

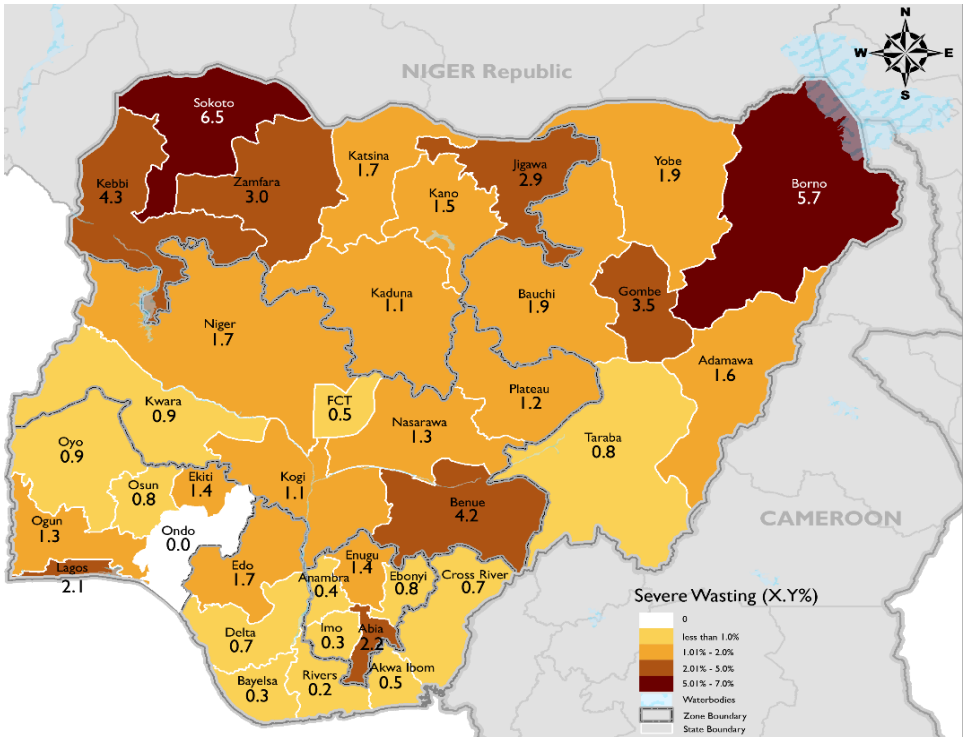


Figure 3: Map of Nigeria showing the distribution of Wasting by state. Source: NDHS,2018

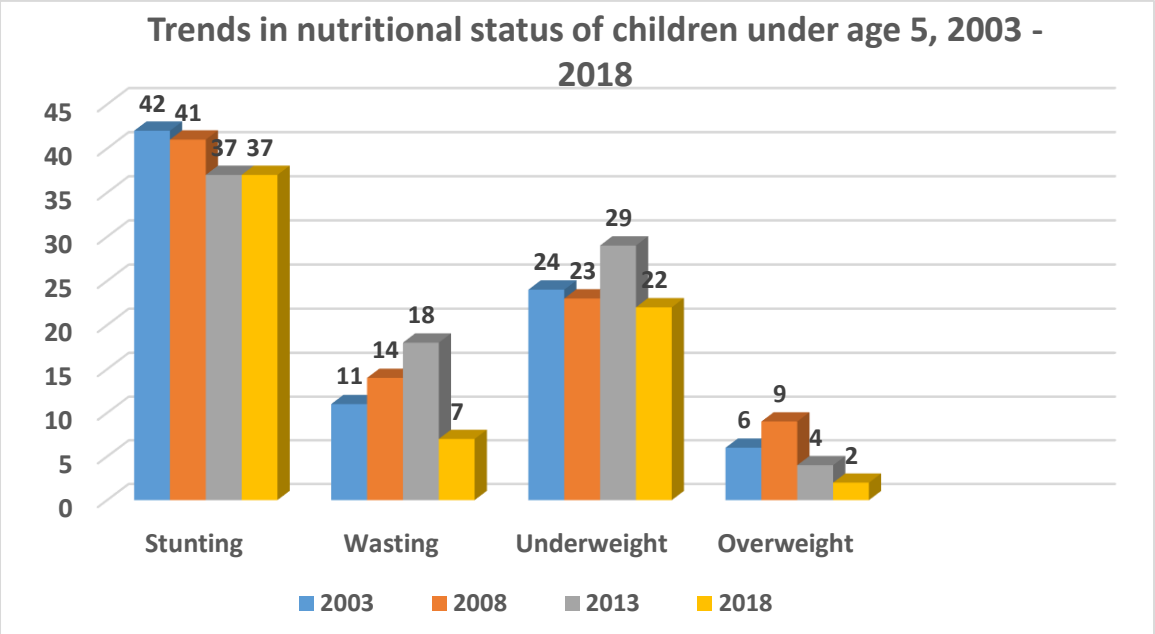


Figure 4 shows the trends and indicates that not much has changed since 2003 except for wasting and overweight within a 16-year period (source: NDHS, 2003 -2018).

It has been reported that Nigeria has a significant micronutrient deficiencies problem which has persisted for decades (Anjorin et al., 2019). Iron Deficiency Anaemia (IDA) is the most common micronutrient deficiency in Nigeria (NDHS, 2018) and this mostly affect children,

adolescent girls and women of reproductive age. The NDHS (2018) indicate that 68% of children aged 6-59 months had anaemia. The prevalence of anaemia was higher among younger (age 6-23 months) than older (age 24- 59 months) children, with a peak prevalence of 81% among children aged 12-17 months. Fifty-eight percent of women of reproductive age (15-49years) have some degree of anaemia. Anaemia prevalence is higher in rural areas (62%) than in urban areas (54%) (NDHS, 2018).

The NDHS (2018) further reports the percentage of children aged 6-23 months who consumed foods rich in vitamin A increased from 52% in 2013 to 59% in 2018. There were also increases in the percentage of children aged 6-59 months who received vitamin A supplements (from 41% in 2013 to 45% in 2018). Only three out of every ten children with diarrhoea were given zinc supplements.

Major causes of micronutrient deficiency include; inadequate dietary intake, parasitic infestation, excessive menstrual blood loss and, poor dietary bioavailability of iron, influenced by the form iron present in the food as well as the presence of enhancers and/or inhibitors. Micronutrients are naturally available in foods and can also be provided through direct supplementation and fortification using various food vehicles such as wheat and maize flour, vegetable oil, sugar, and salt.

About 30% of Nigerians are reported to be affected by non-communicable diseases (NCDs) (ref). This prevalence is attributed to cardiovascular diseases (11%), cancer (4%), diabetes mellitus (1%), chronic respiratory diseases (2%), and other NCDs (12%) (WHO, 2018). In a recent report (David et al., 2020), about 28 million Nigerians were reported to be hypertensive, with only 12% receiving treatment and 2.8% having their blood pressure under control. It is also noteworthy that NCDs remain the leading cause of mortality worldwide with majority being recorded in low- and middle-income countries (WHO, 2021).

Current effort to address the Nutrition problem in Nigeria

Over the past 20 years, Nigeria has undertaken several efforts to address the nutrition problem such as poor infant and young child feeding practices; inadequate feeding practices of young children from 2-5 years as well as school children from 5-11 years, poor sanitary and unhygienic environment resulting in frequent bouts of diarrhoea, inadequate consumption of critical micronutrients such as Vitamin A, B complex, and C as well as important minerals such as Iron, Calcium and Zinc. Other nutrition challenges are poor caring practices of pregnant and lactating women, poor adolescent nutrition.

Stakeholders in government at different levels and development partners and donors have mounted different programmes to address these challenges. They include efforts to improve early initiation of breastfeeding, exclusive breastfeeding, feeding nutrient dense complementary foods, improved micronutrient nutrition - supplementation, fortification, and dietary diversification, iron supplementation of children and pregnant and lactating women,

Many of these efforts have begun to yield some fruits such as increase in the percentage of children who started breastfeeding within 1 hour of birth from 33% in 2013 to 42% in 2018. Similarly, the percentage of children who started breastfeeding within 1 days of birth

increased from 73.7 to 82.3. Exclusive breastfeeding among children age 0-5 months has increased since 2013, from 17% to 29% in 2018. The median duration of any breastfeeding marginally increased from 18.3 months in 2013 to 18.5 months in 2018. Thirty-seven percent of breastfeeding children are given fruits and vegetables rich in vitamin A, as compared with 57% of non-breastfeeding children. The percentage of young children who received prelacteal feeds decreased from 58.6% in 2013 to 48.8% in 2018.

For pregnant women, both micronutrient supplementation and deworming during pregnancy have improved substantially over the past decade. The percentage of women taking iron supplementation for 90 days or more increased from 21% in 2013 to 31% in 2018. In addition, the percentage of women who did not take any iron supplementation decreased from 36% in 2013 to 31% in 2018. Also, the percentage of women taking deworming tablets during pregnancy increased from 14% in 2013 to 17% in 2018 (NDHS, 2018)

On the whole, the country has not made much progress in significantly reducing the level of stunting and underweight (Figure 4). The Government's efforts are now being focused on a multisectoral approach to address the nutrition problem. The Government approved the National Multisectoral Plan on Food and Nutrition (NMPFAN) in December 2020 and launched its first year operational plan of action in July 2021.

Figure 5 shows the triple burden of malnutrition in Nigeria with undernutrition, micronutrient deficiency and overnutrition, all coexisting together.

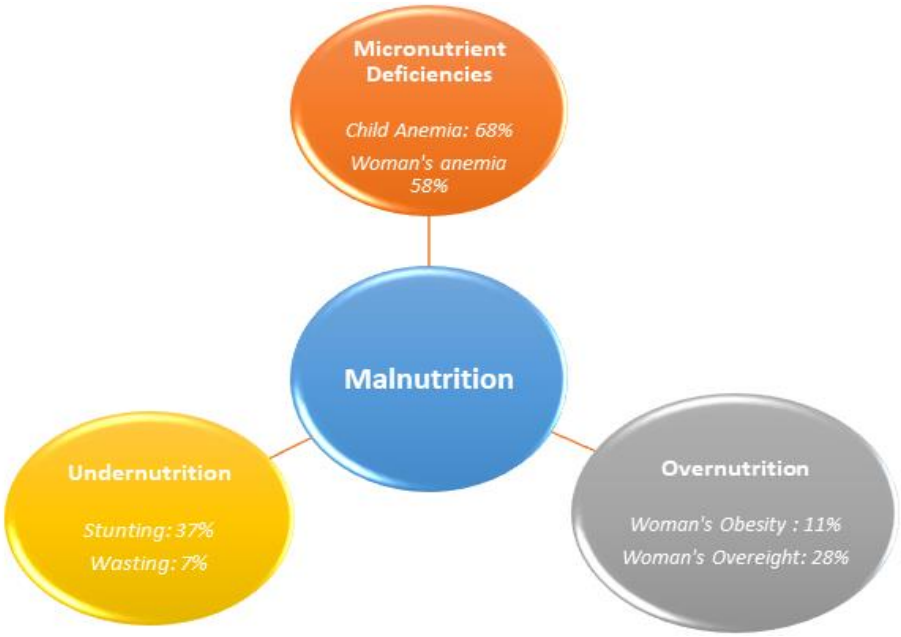


Figure 5: Triple burden of malnutrition in Nigeria

Nigeria's Policy on Food and Nutrition, institutional arrangement and intervention activities
The National Policy on Food and Nutrition provides the framework for addressing the problems of food and nutrition insecurity in Nigeria, from the individual, household, community and up to the national level. It guides the identification, design, and implementation of intervention activities across different relevant sectors. The overall goal of the National Policy on Food and Nutrition is the attainment of optimal nutritional status for all Nigerians, with particular emphasis on the most vulnerable groups such as children, adolescents, women, elderly, and groups with special nutritional needs. The Policy document has ten objectives and eighteen targets. (Federal Ministry of Budget and National Planning, 2016)

The implementation of the 2016 National Policy on Food and Nutrition (NPFN) is the responsibility of the authorities at the three levels of government in collaboration with other stakeholders, including the organized private sector, development partners, professional bodies, civil society organizations (CSOs) (i.e., Non-Governmental Organizations [NGOs], Faith Based Organizations [FBOs]), and communities. Administrative arrangements between the National Council on Nutrition (NCN), Ministry of Budget and National Planning (MB&NP), the National Council on Food and Nutrition (NCFN), Federal and State Ministries, and Local Governments will form the basis for planning and implementation of the NPFN.

In providing a clear picture of what actions need to be taken to assure food security in Nigeria, a survey on the food and nutrition security of rural Nigerians' concluded that it was important to have knowledge of the food and nutrition situation as well as the availability and control of resources such as human, economic and organizational. The survey, however, found that at the household level, men control more of the resources, and this often hinders the achievement of adequate food, care, and health which influences household nutrition security. The survey also stated that adequate access to household food security, care of children and women and to basic health services, combined with a safe and healthy environment were the factors needed to determine if their dietary intake will be satisfactory, disease will be controlled, and adequate nutrition will be secured (Akinyele, I. O. 2009).

The nutrition activities that have been implemented both at the Federal, State and Local government and community levels vary. They include optimal breastfeeding promotion activities, enrichment of complementary foods, micronutrient supplementation (Vitamin A in young children, Iron in pregnant and lactating women), treatment of severe diarrhoea with Zinc tablets and ORS, fortification (industrial or bio-fortification) and dietary diversification. Strategies such as capacity building, service delivery, social mobilization etc. have been utilized to implement these activities. However, a large percentage of these activities have been donor driven and the scope is often small relative to the malnutrition burden.

Nutrition Partner landscape
There are many partners operating at the Federal, State and also at the Local Government Area (LGA) councils. These partners often rely on the resources made available by donors, foundations and sometimes the private sectors. At the federal and state levels, UN agencies

such as UNICEF, WHO, FAO, IFAD have been in operation. Of the UN agencies, UNICEF has more structures at the State and LGA levels. Multilateral organizations like the World Bank (WB-ANRiN supported activities in 12 states of the country), USAID, (Breakthrough Actions), Save the Children, and FHI360 (Alive and Thrive and AHNi projects) support activities at the community levels in addition to the support at the federal and state levels. There are also Foundations such as Bill and Melinda Gates Foundation, Aliko Dangote Foundation etc. There are also Civil Society Organizations (CSOs) such as CS-SUNN and Community Based Organizations (CBOs) which are very active especially at the community levels.

Transition from NSPAN I to NSPAN II

There is no doubt that some progress was made in the implementation of the health sector priorities of the National Policy on Food and Nutrition which contributed to the reduction in wasting, anaemia, low birth weight, overweight and severe acute malnutrition recorded (NDHS, 2018), as well as in the improved rate in the practice of early initiation and exclusive breastfeeding. These successes have been documented as evidenced in the results of nationwide surveys carried out between 2014 and 2018. For example, the trend of the results showed that both micronutrient supplementation and deworming during pregnancy have improved substantially over the past decade. The percentage of women taking iron supplementation for 90 days or more increased from 15% in 2008 to 21% in 2013 and to 31% in 2018. Also, the percentage of women taking deworming medication during pregnancy increased from 14% in 2013 to 17% in 2018. This reflected in the reduction of anaemia in women from 67 percent in 2013 to 58 percent in 2018.

It is thus reasonable to expect that supplementation of Iron (or multiple micronutrient supplementation [MMS] when authorized for national scale up) should be one of the strategies to be pursued in NSPAN II as part of lessons learnt from NSPAN I. Other strategies such as enlisting more community actors to push for community infant and young child feeding, rallying nutrition stakeholders to get behind the Federal Ministry of Health led ''Zero Water Campaign'' in the promotion of exclusive breastfeeding as well as other approaches all worked to push the rate from 17% (NDHS, 2013) to 29% (NDHS, 2018). Also the expansion of CMAM sites improved access of acutely malnourished children to services. On monitoring during NSPAN I, the SMART survey experience is one key success story of Nigeria's Information System and demonstrates the potential to establish a data collection system that captures changes over time.

While NSPAN I was relatively successful, however, there were limitations in scope of interventions, the size of populations that benefited, available resources for interventions and monitoring, as well persisting insecurity issues among other factors. These modest successes, and the emerging positive trend in some of the results, drives the development of NSPAN II, 2021-2025, which is designed as a guide for the Health Sector component of the National

Food and Nutrition Policy and to comprehensively address the nutrition problems of children, adolescents, women, elderly and people in exceptionally difficult circumstances.

3.0 Strategic Plan of Action

3.1 Strategic Plan of Action

The National Strategic Plan of Action (NSPAN II) consolidates on the successes of the outdated plan (NSPAN I, 2014-2019) as well as learning from its weaknesses and bridges the gaps towards achieving current global trends and innovations. It also aligns with the National Policy on Food and Nutrition (NFNP), National Multisectoral Plan for Action on Food and Nutrition and National Strategic Health Development Plan (NSHDP II)

It is important to note that the strategic objectives of NSPAN II have been developed to provide programming guide to the goal and all the relevant objectives of the NPFN such as adolescents and the elderly that were not emphasized in the last NSPAN. This NSPAN also acknowledges the enormous challenges faced by the increasing emergence of the triple burden of malnutrition, especially, the diet related non-communicable diseases. In the face of dwindling resources, competing needs for more resources and a challenging health environment, the emphasis on collaboration and partnerships will become more important.

This National Strategic Plan of Action will focus on eight areas of interventions to help address the nutrition specific objectives as well as targets espoused in the National Food and Nutrition Policy document of the federal government as well provide a base for coordination of nutrition activities at the ministry of health level. The eight areas are Maternal, infant and Young Child Nutrition; Integrated Management of Moderate and Acute Malnutrition in children Under 5 years; Micronutrient Deficiency Control; School Age Children, Adolescent and the Elderly Nutrition; Diet related Non-Communicable Disease; Nutrition Information Systems; Nutrition in Emergency; and Nutrition Commodities Logistics Management Systems. Although coordination and governance takes a prominent role, it is not listed as one of the eight. Recognizing the high rate of infant mortality and the need to save the lives of the vulnerable, there would be more focus on the first 1000 days while not losing focus on the need to improve the nutrition of the whole population.

3.2. Goal

The Goal of the plan is to attain optimal nutrition for all Nigerians along the life-course through prevention, management and control of malnutrition, prioritizing the vulnerable groups; under-5 children, school- age children, adolescents, women of reproductive age, elderly and people exceptionally difficult circumstances by 2025

3.3 Vision

A nation with optimal nutrition for all her citizens along the life-course contributing to their well- being and human, cognitive, and economic development

3.4 Mission

Promote and support sustainable implementation of quality, equitable, and innovative nutrition services for all Nigerians.

3.5 Strategic Objectives

To achieve the goal of attaining optimal nutrition for all Nigerians through prevention, management and control of malnutrition, the following strategic objectives have been formulated

1. MIYCN- Strengthen, promote and deliver appropriate nutrition interventions for women of reproductive age, infants and young children (MIYCN)

2. IMAM- Prevent, treat and control of moderate and severe acute malnutrition in children under 5years (IMAM)

3. MNDC- Strengthen and Promote micronutrient deficiency control measures to improve nutrition status of all Nigerians (MNDC)

4. School Age Children, Adolescent and Elderly Nutrition- Promote and Improve access of school age children, adolescents and the elderly to appropriate nutrition interventions

5. NIS– Strengthen nutrition programming through effective monitoring, evaluation, knowledge management, learning and research (NIS)

6. DRNCD– Promote and strengthen the prevention, control and management of diet related Non-Communicable Diseases (DRNCD)

7. Nutrition in Emergency (NIE)- Strengthen and promote equitable access to quality nutrition services in emergency

8. Nutrition Commodities Logistics Management System (Nut-CLMS) -Promote and Strengthen Nutrition Commodities Logistics Management System

3.6 Targets

Targets for this plan have been guided by the National Policy on Food and Nutrition. The targets address each of the priority intervention areas for Nigeria:

1. Increase early initiation from 42% in 2018 to 65% in 2025 and exclusive breastfeeding rate from 29% in 2018 to 65% by 2025 respectively;
2. Increase the percentage of children age six months and above who receive appropriate complementary feeding from 10% in 2013 to 40% by 2025;
3. Increase the minimum dietary diversity, minimum meal frequency and minimum acceptable diet from 23, 42 and 11 in 2018 to 40, 60 and 25 respectively in 2025
4. Reduce stunting rate among under-five children from 37% in 2018 to 18% by 2025;
5. Reduce childhood wasting from 9% in 2018 to 5 % in 2025;
6. Reduce Severe Acute Malnutrition (SAM) from 10% in 2018 to 5% in 2025;
7. Increase coverage of Vitamin A supplementation from 45% in 2018 to 65% by 2025;
8. Increase the proportion of children who receive deworming tablets from 13.4 % in 2013 to 50% by 2025;
9. Increase coverage of Zinc supplementation in diarrhoea management from 7% in 2013 to 50% of all children needing treatment by 2025;
10. Reduction in anaemia in pregnant women from 58% in 2018 to 40% in 2025;
11. Reduce prevalence of diet-related non-communicable diseases by 25% in 2025;
12. Reduce the incidence of malnutrition among victims of emergencies by 50% in 2025;
13. To arrest the emerging increase in obesity prevalence in adolescents and adults by 50 % of its current 2018 value in 2025

3.7 NSPAN focus on eight priority areas:

These priority areas have been expanded to eight to cover all the objectives espoused in the National Food and Nutrition Policy document.

1. Maternal, Infant and Young Child Nutrition
2. Integrated Management of Acute Malnutrition in Children
3. Micronutrient Deficiency Control
4 School Age, Adolescent and the Elderly Nutrition
5. Diet Related Non-Communicable Diseases
6. Nutrition Information Systems
7. Nutrition in Emergency
8. Nutrition Commodities Logistics Management System

3.8 Cross cutting Issues

There are two cross cutting issues included in NSPAN II to deepen its focus as well as its impact. These are Nutrition and Human rights, and Nutrition and Gender.

3.8.1 *Nutrition and Human Rights*

International human rights principles and commitments offers a new opportunity for promoting development goals and policies with lasting effects for the individual human being. The international nutrition community now see nutrition as a human right. This provides a potent new context in which to formulate and implement nutrition policies and programs. The obligation of states to promote their citizens' rights to adequate food, health, and care for the vulnerable is now primary to ensuring nutritional well-being.

This goal is in line with the United Nations Charter, the Universal Declaration of Human Rights, and subsequent human rights conventions. Although Nigeria has actively signed and ratified international human rights treaties, there have been challenges with implementing these domestically. Nigeria operates under a federal system and cannot apply international treaties unless they are ratified by the legislative houses at the subnational level since health is in the concurrent list in the country's constitution.

3.8.2 Nutrition and Gender.

Gender relations play an important role in food security and nutrition management in the household and community. Addressing gender inequalities can result in larger improvements in malnutrition. Without addressing the core issue of gender (e.g. decision making, access to resources including land, power), the needed progress may not be made to improve nutrition.

The UN ACC/SCN (2002) has long recognized that the socially constructed gender roles of men and women interact with their biological roles to determine the nutrition status of the entire family and of each gender, women's cyclical loss of iron, childbearing and over all nutrition status is particularly vulnerable to deficiencies in diet, care, health and sanitation services. Moreover, the nutrition status of newborns and infants is intimately linked with the nutrition status of their mother before, during, and after pregnancy.

Hence, it is essential to integrate a gender lens in this plan. There are a number of factors that can impact women and children's nutrition including:

- Women's ability to influence household decisions
- The extent to which women are able to access/control resources for their personal health/well-being

Factors that can negatively impact women and children's nutrition include:

- The heavy work burden on women
- A large age difference between the wife and her husband
- The role of the mother-in-law

- Polygamous relationships (e.g. children of the wife who is “less important”)
- Having no suitable substitute caregivers in families (due to low income/pressure to work)
- Cultural norms (e.g. around breastfeeding), making it important to engage men and other members of the household (e.g. mother-on-laws) in nutrition education
- Intra-household food distribution
- Gender-based violence

Nutrition oriented activities are inherently gendered. Women are the primary nutrition caregivers in households in all societies – the food growers, the cooks, the caregivers. The manner in which these activities are carried out and the control that they exercise over the resources necessary to carry them out effectively are critical determinants of the nutritional status of those in their care. Improvements in child nutrition are closely linked to the resources that caregivers can use to improve care and to increase the diversity and quantity of food provided to the children under their care.

3.8.3 Quality of Care in Nutrition

Quality of care (QoC) in nutrition is the extent to which nutrition services provided to individuals and populations improve desired nutrition outcomes. In order to achieve this, nutrition care needs to be effective, timely, efficient, equitable and people-oriented.

For sustenance of life and health, the human body needs essential nutrients which vary from one life stage to another. For example, during intrauterine development, infancy, and childhood, recommended intakes of macronutrients and most micronutrients are higher relative to body size, compared with those during adulthood. In the elderly, some nutrient needs (e.g., vitamin D) are required in increased amounts, while others (e.g. energy and iron) are reduced.

Thus, the amounts of nutrients required as well as other caring needs e.g. physical, psychological, emotional etc. would vary for different stage of the life cycle and also be influenced by the prevailing nutrition problem of the community, region and country. For Nigeria and most African countries, it is mainly undernutrition and micronutrient deficiencies with an emerging concern of pockets of overnutrition.

This plan of action examined the QoC in each of the eight Priority areas and include the following Maternal Infant and Young Child Nutrition, School Age, Adolescent, and the Elderly Nutrition, Integrated Management of Moderate and Acute Malnutrition in Children aged 6-59 months, Micronutrient Deficiency Control, Diet Related Non-Communicable Diseases, Nutrition Information Systems, Nutrition in Emergency, as well as Nutrition Logistics Commodities Management Systems.

In each of these Priority Areas, indicators have been identified to measure the adequacy of the care provided by a particular priority area. The services provided (in each priority area),

the indicators for measuring, data source and responsible person are presented in a tabular form in Chapter 4.

However, the standard quality of care for nutrition care is presented in Appendix 1. These are the expected standard quality of care based on National or WHO recommendations or international conventions. Examples of these include Quality of Care for newborns on early initiation and quality of care for Infants and Young Children (6–23 months of age) on continued breastfeeding and complementary feeding.

4. 0 Areas of Focus of Interventions

4.1 Maternal, Infant and Young Child Nutrition

Maternal, Infant and Young Child Nutrition (MIYCN) is critical for woman, newborn, and child survival. Adequate nutrition of mothers helps in foetal growth and development. Appropriate feeding practices are essential for the health, nutrition, survival and development of infants and children to attain their full potentials. Maternal nutrition particularly in the first 1000 days of life is critical to both mother and child as it lays the foundation for the successful outcome of pregnancy and lactation. Therefore, interventions that promote maternal nutrition should target pre-pregnancy and after childbirth. Poor nutrition increases the risk of maternal mortality, premature delivery and low birth weight which contribute child morbidity and mortality. According to NDHS (2018), maternal mortality is recorded at 512 per 100,000 births which means for every 1,000 live births, approximately five women died during pregnancy, during childbirth, or within 2 months after childbirth. More than 1 in 8 children die before their fifth birthday. It is therefore imperative to promote interventions that address optimum nutrition for the women, infants and young children for optimal growth and development

Goal

The goal of the National Policy on Maternal, Infant and Young Child Nutrition MIYCN is to ensure the optimal nutrition for the survival, growth, and development of every child and woman including pregnant and lactating adolescent girls in Nigeria.

Strategic Objective

To strengthen, promote and deliver appropriate nutrition interventions for Women of Reproductive age, Infants and Young Children

Specific Objectives:

i. Increase awareness, uptake and utilization of micronutrient supplement for mothers, adolescents, infants and young children
ii. Strengthen Maternal Nutrition interventions in the continuum of care including pregnant, lactating adolescent girls and women
iii. Advocate and promote optimal breastfeeding practices for Infants
iv. Enhance appropriate complementary feeding of infants from 6-23 months including children in especially difficult circumstances
v. Strengthen coordination mechanism for Maternal, Infants and Young Child Nutrition
vi. Strengthen capacity of health workers, community resource persons and other stakeholders on Maternal, Infants and Young Child Nutrition including those in difficult circumstances

vii. Strengthen advocacy and resource mobilization for Maternal, Infants and Young Child Nutrition at all levels
viii. Strengthen monitoring and evaluation, innovation, research and learning for Maternal, Infants and Young Child Nutrition

Priority Interventions

4.1.1 Maternal and Adolescent Girls Nutrition

To achieve optimal maternal nutrition, the interventions should include services across health and food systems as well as approaches to promote maternal nutrition in exceptionally difficult circumstances.

Adolescent girls are vulnerable as a result of poor food choices such as low consumption of fruits and vegetables, high intake of sweetened beverages, snacking, frequent consumption of fast foods, and overeating. Equally, other adolescents develop problems with unhealthy and extremely restrictive dieting without meeting the minimum nutritional requirements necessary for healthy growth and development particularly during pregnancy and lactation.

Nutrition education is a cost effective, high impact and comprehensive health intervention, addressing and empowering caregivers, community influencers, adolescents, infants and children with knowledge and skills to make healthy food choices. It is therefore, important to prioritize nutrition interventions and programs in all settings to promote actions that drive adequate nutrient intake, healthy eating choices and other nutrition-related behaviors.

Interventions

- Provision of at least 90 tablets of Iron-Folic Acid (IFA) for pregnant women to specifically address maternal anaemia.
- Promotion of social and behavior change communication to improve, protect and support maternal nutrition at all levels of service delivery to ensure positive pregnancy outcome
- Provision of Adolescent -friendly health services and nutrition counselling to support the adolescent pre-conception, conception and during lactation
- Scale-up regular food rations and targeted supplementary feeding programme (TSFP) for pregnant and lactating women (PLW) including pregnant and lactating adolescent girls in exceptionally difficult circumstances.
- Strengthen nutrition education curricula in schools and in community-based promotion of girls' education
- Regular nutritional status screening of pregnant and lactating adolescent girls, and women as well as micronutrient assessment where possible
- Nutrition Assessment, Counselling and Support for women and children.
- Strengthen referral system to ensure improved maternal survival

- Provide linkage to women-focused community economic empowerment scheme and strengthening of livelihood.
- Promote access to safe food and nutrition security services as well as other social protection schemes for women including cash transfers, and food voucher assistance.
- Ensure at least three doses of intermittent preventive treatment for malaria during antenatal care by pregnant women.
- Provision of Multiple Micronutrient Supplements (MMS), or Iron and Folic acid supplements for pregnant women and adolescent girls, in both facility and community-based platforms.
- Leveraging on existing adolescent platforms to foster peer-to-peer communication and promote optimal nutrition.

4.1.2. Infants and Young Children Feeding (IYCF)

Infant and Young Child Feeding ensures adequate nutritional status, growth, development and health of the infants and young children through optimal breastfeeding and complementary feeding.

Optimal breastfeeding shall be protected, promoted and supported through;

- Early initiation of breastfeeding within one hour of all childbirth including exceptionally difficult circumstances.
- Exclusive breastfeeding for the first 6 months of life.
- Timely introduction of appropriate complementary foods from six months with continued breastfeeding up to 2years or beyond
- Enforcement of the National Regulations on Marketing of Infants and Young Children Food and other Designated Products (Registration, sales, etc.) 2019.
- Counselling on adequate nutrition and optimal breastfeeding practices

Key Indicators

- Proportion of children 0-23 months who were put to breast within one hour after delivery.
- Proportion of children 0-6 months who were exclusively breastfed.
- Proportion of children from 6 months old who received soft, semi-solid and solid foods.
- Proportion of infants aged 12 months who are fed breast milk
- Proportion of children 6-23 months who received minimum dietary diversity
- Proportion of children 6-23 months who received minimum meal frequency
- Proportion of children 6-23 months who received minimum acceptable diet
- Proportion of pregnant women who received Iron Folic Acid (IFA) or MMS (as prescribed by the MNDC guideline) by the supplement throughout the period of pregnancy
- Proportion of adolescent girls who received IFAS or MMS (as prescribed by the MNDC guideline)

Table 1 – List of indicators for measuring Infant and Young Child Nutrition

1	Ever breastfed	EvBF	Children born in the last 24 months	Percentage of children born in the last 24 months whowere ever breastfed
2	Early initiation of breastfeeding	EIBF	Children born in the last 24 months	Percentage of children born in the last 24 months who were put to the breast within one hour of birth
3	Exclusively breastfed for the first two days after birth	EBF2D	Children born in the last 24 months	Percentage of children born in the last 24 months who were fed exclusively with breast milk for the first two days after birth
4	Exclusive breastfeeding under six months	EBF	Infants 0–5 months of age	Percentage of infants 0–5 months of age who were fed exclusively with breast milk during the previous day
5	Mixed milk feeding under six months	MixMF	Infants 0–5 months of age	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
6	Continued breastfeeding 12–23 months	CBF	Children 12–23 months of age	Percentage of children 12–23 months of age who were fed breast milk during the previous day
7	Introduction of solid, semi-solid or soft foods 6–8 months	ISSSF	Infants 6–8 months of age	Percentage of infants 6–8 months of age who consumedsolid, semi-solid or soft foods during the previous day
8	Minimum dietary diversity 6–23 months	MDD	Children 6–23 months of age	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
9	Minimum meal frequency 6–23 months	MMF	Children 6–23 months of age	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
10	Minimum milk feeding frequency for non-breastfed children 6–23 months	MMFF	Children 6–23 months of age	Percentage of non-breastfed children 6–23 months of age who consumed at least two milk feeds during the previous day
11	Minimum acceptable diet 6–23 months	MAD	Children 6–23 months of age	Percentage of children 6–23 months of age who consumed a minimum acceptable diet during the previous day
12	Egg and/or flesh food consumption 6–23 months	EFF	Children 6–23 months of age	Percentage of children 6–23 months of age who consumed egg and/or flesh food during the previous day
13	Sweet beverage consumption 6–23 months	SwB	Children 6–23 months of age	Percentage of children 6–23 months of age who consumed a sweet beverage during the previous day
14	Unhealthy food consumption 6–23 months	UFC	Children 6–23 months of age	Percentage of children 6–23 months of age who consumed selected sentinel unhealthy foods during the previous day
15	Zero vegetable or fruit consumption 6–23 months	ZVF	Children 6–23 months of age	Percentage of children 6–23 months of age who did not consume any vegetables or fruits during the previous day

Key Targets

By 2025,

- Increase by at least 50% children 0 -23 months who are put to breast within one hour after delivery
- At least 50% of infants less than 6 months are exclusively breastfed
- At least 25% of children 6-23 months received minimum acceptable diet
- Increase in the proportion of children 6-23 months who received minimum dietary diversity from 22% to at least 50%
- Increase the proportion of children 6-23 months who receive minimum meal frequency from 44% to at least 50%
- At least 50% of pregnant adolescent girls and women will be reached with iron folic acid supplementation.

Table 2: Quality of Care Indicators for Maternal Infant and Young Child Nutrition

s/no	**Core indicator**	**Numerator**	**Denominator**	**Data source**	**Responsible Person**
1	Proportion of pregnant women that received at least 180 tablets of IFA during antenatal care visits	No. of pregnant women that received at least 180 tablets of IFA during ANC visits	Total no. of pregnant women that attended antenatal care visits	Antenatal register/NHIMS/DHIS2	Data Collected by Facility M & E Officer
2	Proportion of children with normal weight at birth	No. of children born with normal weight	Total numbers of newborn	Delivery Register/NHIMS/DHIS2	Data Collected by Facility M & E Officer
3	Proportion of live births who were put to breast within the first hour of birth	No of live births who were put to breast within the first hour of birth	Total no of live births in the facility	Labour and Delivery register/NHIMS/DHIS2	Data Collected by Facility M & E Officer
4	Percentage of infants 0-5 months of age who were fed exclusively with breast milk during the previous day	Infants 0–5 months of age who were fed exclusively with breast milk during the previous day.	Total numbers of Infants 0–5 months of age.	GMP Register/NHMIS/DHIS2	Data Collected by Facility M & E Officer
5	Percentage of children 6–23 months of age who consumed a minimum acceptable diet	Children 6–23 months of age who consumed at least the minimum dietary diversity and minimum meal frequency	Total numbers of children 6-23months	GMP Register/NHMIS/DHIS2	Data Collected by Facility M & E Officer

4. 2 Integrated Management of Acute Malnutrition in Children under 5 years

In Nigeria malnutrition manifests in the form of undernutrition, micronutrient deficiency and over nutrition. This underscores the adoption of global standard of both nutrition-specific and nutrition-sensitive interventions across sectoral mandates in Nigeria. WHO (2021) refers to malnutrition as deficiencies, excesses, or imbalances in a person's intake of energy and or nutrients. It addresses three broad groups of conditions- undernutrition, which includes wasting (low weight –for- height), Stunting (low height- for- age) and underweight (low weight for age). Stunting, reflects failure to receive adequate nutrition over a long period of time. Wasting, is a measure of acute undernutrition and represents the failure to receive adequate nutrition in the period. Underweight, is a composite index of weight-for-height and height-for-age reflecting both acute (wasting) and chronic (stunting) undernutrition. (NDHS, 2018).

Prior to NSPAN 1, Nigeria was a contributor to the 10% global burden of SAM, with annual burden of 2.5million and a prevalence of less than a million. Yet, 60 to 80% of the SAM cases are found in the Northern part of the country and to date all regions of the country have experienced an increase in SAM prevalence and in absolute numbers.

The integrated management of acute malnutrition is an integrated programme to tackle acute malnutrition, whether moderate or severe. Nigeria has the second highest burden of stunted children in the world, with a national prevalence rate of 37 percent of children under five. An estimated 2 million children in Nigeria suffer from severe acute malnutrition (SAM), but only two out of every 10 children affected is currently reached with treatment. UNICEF,

Goal of IMAM

To scale-up prevention, detection, control and management of acute malnutrition (NSHDP II 2018-2022)

Strategic Objective: To prevent, treat and control acute malnutrition in children U5

Specific Objective 1: Strengthen Health System capacity on IMAM

Specific Objective 2: Strengthen coordination mechanism for IMAM

Specific Objective 3: Strengthen quality delivery of IMAM services at all levels

Specific Objective 4: Intensify advocacy for resource allocation and mobilization for IMAM services

Specific Objective 5: Create awareness on IMAM services

Specific Objective 6: Strengthen monitoring, evaluation and research for IMAM

Seven percent of women of childbearing age also suffer from acute malnutrition, leading to vicious cycle of malnutrition in children. To this effect, Nigeria started managing children suffering from severe acute malnutrition exclusively at the hospital level which was improved with the introduction of the community-based integrated approach known as Community Management of Acute Malnutrition (CMAM). This is based on the following:

- Ready to Use Therapeutic Foods (RUTF) that allows beneficiaries to be treated at home. RUTF does not need to be cooked or processed with water before utilization and can be consumed as presented, thus limiting bacterial contamination due to low

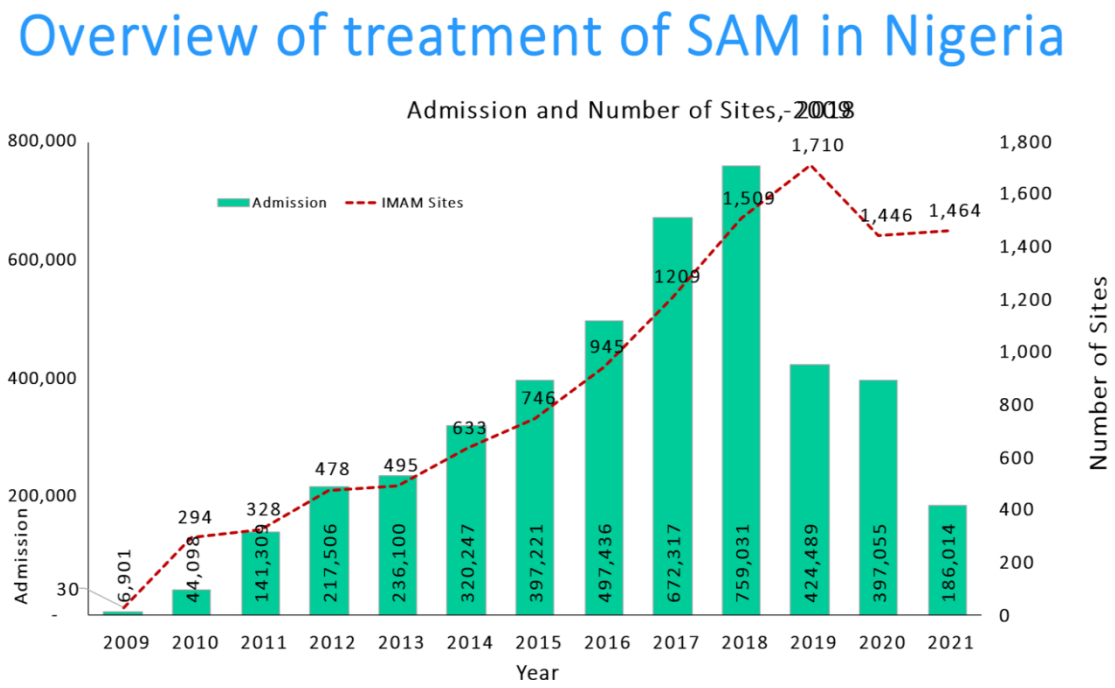
water activity. RUTF can be a paste (usually peanut paste) or a compact meal and has a similar composition to F100 therapeutic milk + iron used in phase 2 for inpatient care;

- The new classification for Acute Malnutrition allows treatment adaptation according to the medical and nutritional conditions of the patient;
- Mothers/Caregivers of children suffering from Moderate Acute Malnutrition (MAM) receive nutritional counselling or nutritional support in a supplementary feeding programme if available;
- Children suffering from severe acute malnutrition without medical complications are treated in Outpatient Therapeutic Programme (OTP) services in health centers, external clinics or mobile posts;
- Children suffering from severe acute malnutrition with medical complications are treated as inpatients within pediatric services in any secondary/Tertiary health facility with inpatient services.

In view of this, the health sector prioritized IMAM as a strategy for both development and humanitarian settings to ameliorate the scourge of undernutrition at the OTP, IPC/SC, TSF & BSFP levels. The IMAM has been scaled up across the nation from 2009 till date from only 12 Northern States to Southern States totaling 25 States +FCT. The performance has reached the recovery rate of >80% when compared with the SPHERE standard indicator of >75% Cured rate for CMAM performance.

The UNICEF Programme Data Report on CMAM from 2014 to June 2021 (2021) reported that 3,653,810 SAM children received treatment at 1,464 IMAM sites including mobile/outreach in humanitarian States in the 25 States +FCT. Though the geographic coverage is less than 5% of National health facilities, the evaluation from the implementation status of NSPAN 1 (2014-2019) showed that Nigeria wasting level has improved (FMOH, 2020) from 18% (NDHS 2013) to 7% (NDHS 2018). This may have been achieved through domestic resources from the FGN annual counterpart contribution of N1.2B, while most States and Donor/IP support at their mandate levels.

Figure 6: Overview of Treatment of SAM children in Nigeria



Key intervention areas upon which strategic actions should be planned and implemented are shown in Table 3 below.

Table 3: Interventions employed in the management of Acute Malnutrition

1	Prevention and management of Moderate Acute Malnutrition in children 0-59months months of age	Promote Exclusive breastfeeding Identification of circumstances in which food supplementation is needed Provision of adequate complementary food in these circumstances	Populations with high prevalence of children 0-59 months of age with MUAC<12.5cm or weight-for-age z scores <-2	• Health facilities • Community structures • Campaigns/Outreach	• No of children 6-59months screened by GMP or MUAC@ each SDP • No of Children who were administered 90-180 sachets MNP to make up adequate complementary food
3	. Treatment of Severe Acute Malnutrition	1. Identification of SAM cases and subsequent treatment 2. Promote active detection and case management of children with CMAM 3. Establish CMAM sites in primary and secondary health facilities to increase access to CMAM services	Children 6-59 months of age with Presence of bilateral pitting oedema and/or MUAC of < 11.5cm or weight-to height z scores <-3	• Health facilities • Community structures • Campaigns/Outreach	• No of children 6-59months admitted as SAM cases in IMAM sites in Nigeria • No of IMAM sites established in each State
2	Prevention of Moderate Acute malnutrition	1. Scale up nutrition counseling services for population with special nutritional needs including (children born to HIV positive mothers; infants and young children in emergencies with persistent diarrhoea, PLWHA, Adolescent. 2. Develop and implement social behavioural change communication strategies to increase awareness of CMAM at all levels	Focus on the rural and urban poor	• Health facilities • Community structures • Campaigns/Outreach	• No of Children @ TSFP that received SQ-LNS/RUSF • No of PLW @ TSFP received MIYCN Counseling, IFAS/MMS/ Rations
5	Treatment of acute malnutrition	Development of local variants of RUTF through joint collaborative study in selected higher institutions and research centers 2. Procure and distribute to all primary, secondary and tertiary health care facilities, essential medicines for the management of malnutrition and nutrition commodities for management of severe acute malnutrition including RUTF, SQ-LNS, MNP, IFAS, MMS 3. Adhere to national guidelines in the management of nutritional needs of children in difficult situations	Selection/Commissioning of study to institutions and research centers and commissioning the research work	• Health facilities • Community structures • Campaigns/Outreach • Research institutions • Local manufacturers	• No of Local Manufacturers of Nut Commodities in Nigeria • No of States procuring Nut Comm oddities from Local Manufacturers in Nigeria • Annual evaluation of quality standards of Local Manufacturers status reported

Quality of Care Indicators for IMAM

1. Proportion of children 6-59 months who had MUAC screening
2. Proportion of children 6-59months who defaulted from IMAM site
3. Proportion of children 6-59months discharged as recovered from treatment for SAM (Cured Rate)

Table 4: Quality of Care indicators for Integrated Management of Acute Malnutrition

S/N	Core Indicator	Numerator	Denominator	Data source	Responsible persons
1	Proportion of children 6-59 months who had MUAC screening	Number of children 6-59 months who had MUAC screening	Number of children 6-59 months who visited facility	HMIS NUT/GMP information daily register (2019 version)	Monthly reporting from NUT/GMP register
2	Proportion of children 6-59months who defaulted from IMAM site	Number of children 6-59months who defaulted	Total number of children 6-59months discharged from the CMAM programme	HMIS NUT/GMP information daily register (2019 version)	Monthly reporting from NUT/GMP register
3	Proportion of children 6-59months discharged as recovered from treatment for SAM (Cured Rate)	No. of children 6–59months recovered	Total number of children 6-59 months discharged from the CMAM programme	HMIS NUT/GMP information daily register (2019 version)	Monthly reporting from NUT/GMP register

4.3 Micronutrient Deficiency Control

STRATEGIC OBJECTIVE: Promote and strengthen micronutrient deficiency control measures to improve nutrition status of all Nigerians.

SPECIFIC OBJECTIVES:

1. Strengthen coordination platform for micronutrients deficiencies prevention and control programme.
2. Prevent micronutrients deficiencies "hidden hunger" by 2025 by increasing intake of micronutrient rich foods.
3. Strengthen public health interventions to improve dietary intake of micronutrients by 2025.
4. Strengthen research, monitoring and evaluations of National micronutrients deficiencies prevention and control programme by 2025.
5. Strengthen advocacy and resource allocation for micronutrient deficiency control interventions.

Micronutrients are vitamins and minerals needed by the body in very small amounts. However, their impact on a body's health is critical, and deficiency in any of them can cause severe and even life-threatening conditions. They perform a range of functions, including enabling the body to produce enzymes, hormones and other substances needed for normal growth and development (WHO, 2021).

Micronutrient deficiency is defined as a lack of essential vitamins and minerals required in small amounts by the body for proper growth and development (Ritchie and Roser, 2017). Deficiencies of micronutrients are commonly referred to as 'Hidden Hunger' because a large percentage of the population may be deficient without showing any clinical symptoms or signs of deficiency. It often results from inadequate dietary consumption and infectious diseases which decrease bioavailability of micronutrients while at the same time increase individual nutritional requirement. Major micronutrients deficiency disorders of public health importance particularly for children and women of reproductive age in Nigeria include Iron Deficiency Anaemia (IDA), Iodine Deficiency disorders (IDD), Goitre, Vitamin A deficiency-night blindness and metabolic disorders. Other micronutrient deficiency diseases/disorders that are also of nutritional concern include folic acid deficiency, zinc deficiency, vitamin B12 deficiency, et- cetera.

Micronutrient deficiency is a major contributor to childhood morbidity and mortality. It can cause clinical and dangerous health conditions; however, they can also lead to less clinically notable reductions in energy level, mental clarity and overall capacity. This can lead to reduced educational outcomes, reduced work productivity and increased risk from other diseases and health conditions. It has been reported that Nigeria has a significant micronutrient deficiencies problem which has persisted for decades (Anjorin et al., 2019). The

NDHS (2018) indicates that 68% of children aged 6-59 months had anaemia, with 27% having mild anaemia, 38% having moderate anaemia, and 3% having severe anaemia.

Over half (58%) of women of reproductive age (15-49years) have some degree of anaemia. Twenty-eight percent each were mildly and moderately anaemic, and 2% were severely anaemic (NDHS, 2018). Iron Deficiency Anaemia (IDA) is the most common micronutrient deficiency in Nigeria and worldwide (NDHS, 2018). Children, Women of Reproductive Age (WRA) and adolescent girls are mostly affected. Major causes of iron deficiency in Nigeria include inadequate dietary intake, parasitic infestation, diseases, excessive menstrual loss and poor dietary bioavailability of iron, which is influenced by the form in which the iron is present in the food as well as the presence of enhancers and/or inhibitors.

Micronutrients are naturally available in foods and can also be provided through direct supplementation and fortification using various food vehicles such as wheat and maize flour, vegetable oil, sugar, and salt are all mandatory as approved by the Nigerian Government. The NDHS (2018) found that overall, 59% of children aged 6-23 months consumed food rich in Vitamin A. The percentage of children aged 6-23 months who consumed foods rich in Vitamin A increased from 52% in 2013 to 59% in 2018. There were also increases in the percentage of children aged 6-59 months who received Vitamin A supplements (from 41% in 2013 to 45% in 2018). According to NNHS (2018) survey results, Vitamin A supplementation coverage was 41 percent, similar rates to 2015 (42 percent), and so nearly 6 in every 10 Nigerian children do not receive adequate levels of supplementation and are at risk for Vitamin A deficiency with its adverse health consequences.

NDHS (2018) report shows that 31% of children with diarrhoea were given zinc supplements. The World Bank estimated that Nigeria loses over US$1.5 billion in GDP annually to vitamin and mineral deficiencies alone (Government of Nigeria 2014). Cost-benefit analysis shows that nutrition interventions are highly effective (Hoddinott et al., 2013). It is estimated that investing in nutrition can increase a country's Gross Domestic Product (GDP) by at least 3 percent annually (Horton and Steckel 2013). Black et al., (2013) reported that interventions, such as supplementation and fortification, continue to be highly promoted.

Over the past 20 years, Nigeria has undertaken several efforts to address micronutrient deficiencies (Anjorin et al, 2019). These efforts, include campaign (MNCH Week) and routine micronutrient supplementation of pregnant women and children 6–59 months of age, mandatory fortification of selected staple foods and biofortification of others, promoting consumption of micronutrient-rich foods, and point-of-use fortification with micronutrient powders (MNPs) for children 6–23 months of age. The risk of excessive intakes will likely increase with improved implementation and scale-up, therefore there is a need to develop effective coordination structures for MNDC in Nigeria that will critically examine the landscape, decide modalities for different interventions, and ensure that both deficiencies and risk of excessive intakes are minimized.

Goal

The overall goal of the interventions is to reduce micronutrient deficiencies by 50% of its current level among children under-five years of age, School aged children, adolescents, women of reproductive age and the elderly by 2025.

Key Targets:

i) To achieve 40% increase in coverage from the current level of micronutrient (Iron, Zinc, Vitamin A) supplementation and compliance among the target groups.

ii) To achieve 50% reduction of anaemia in Women of Reproductive Age (WRA).

iii) To strengthen public health interventions (sensitization of WRA and school aged children to improve dietary intake of micronutrient rich foods and reduce parasitic infestation by deworming) which will in turn reduce micronutrient deficiencies in urban and rural communities.

iv) To strengthen establishment of feasible, effective, and sustainable methods of large-scale food fortification with micronutrients.

v) To increase production and consumption of micronutrients rich foods including micronutrient fortified and biofortified food by 50% of its current level.

The intervention strategies/preventive approaches as stated in the National Guidelines of Micronutrient Deficiencies Control (NGMNDC) which include Supplementation (short term used prevention and treatment); Fortification (medium to long-term); Dietary Diversification/ Biofortification (Long term) and control of parasitic infestation as part of public health measures are well known (see Table 6). However, a more preventive approach is also needed to prevent micronutrient deficiencies in women before they become pregnant and in-between pregnancies, adolescent girls as well as infant and young children.

Table 5: Interventions on Management of Micronutrient Deficiency Control

S/N	Intervention	Description	Target Population	Potential Delivery Platforms
1	Vitamin A supplementation	• Bi-annual doses for children • Use in the management of measles	Children 6-59 months of age	• Health facilities • Community structures • Pre-primary, primary and post primary schools • Campaigns/Outreach
2	Zinc supplementation	As part of diarrhoea management	Children 6-59 months of age	• Health facilities • Community structures • Campaigns/Outreach

3	Multiple micronutrient powders	Micronutrient powders for in-home fortification of foods/ complementary foods	Children 6-59 months of age	• Health facilities • Community structures • Campaigns/Outreach
4	De-worming	Two rounds of treatment per year	Children 12-59 months of ag	• Health facilities
5	Nutrition Education	• Promote dietary diversification • promote consumption of fortified foods • promote consumption of bio-fortified foods • Promote Sensitization for the prevention of post fortification losses of micronutrients.	Parents, caregivers (Everyone)	• Health facilities • Community structures • Campaigns/Out Reach
6	Food Fortification and Biofortification	• Promotion of voluntary large-scale fortification by food processing companies in compliance with NAFDAC Fortification Guidelines • Compliance monitoring and evaluation of production and stability of micronutrients in fortified foods by regulatory agencies NAFDAC, SON, FCCPC, and Development Partners • Promote fortification of staple foods	Food processors and manufacturers	• Factories • Retailers • Households
8	IFAS	Routine IFAS	Adolescent girls, Preconception, pregnant and lactating women	Health facilities Schools and Community structures
9	Multiple Micronutrient Supplementation (MMS)	Routine multiple Micronutrient supplementation	Preconception, pregnant, lactating women and adolescent girls	• Health facilities • Community structures

Indicators: The following indicators as defined in the NGMNDC can be used to monitor the progress of the set targets.

1. Percentage of children 6 – 11months that received vitamin A supplements in the last 6months
2. Percentage children 6 – 59months who received vitamin A supplements twice in the last 12months
3. Percentage of children 12 – 59months that received vitamin A supplements in the last 6months
4. Percentage of children 6 – 23months who received 90 sachets of micronutrient powders for enriching their diets in the last 6 months
5. Percentage of children 6 – 23 months that are defaulters of MNP
6. Percentage of children 12 – 59 months that are defaulters of MNP
7. Percentage of children 24 – 59months who received 90 sachets of micronutrient powders for enriching their diets in the last 6months
8. Percentage of under-five children with anaemia
9. Percentage of children 6 – 23months that consumed foods rich in vitamin A in the last 24 hours
10. Percentage of children 6 – 23months that consumed foods rich in iron in at last 24 hours
11. Percentage of sampled adolescent girls who received weekly iron folic acid (WIFA)/MMS supplement in the last 3 months
12. Percentage of WRA with anaemia
13. Percentage of women at the reproductive age (15 – 49 years) who receive weekly iron folic supplements or MMS in the last 3 months
14. Percentage of pregnant women that received daily dose of iron folic acid supplement for 6 months during pregnancy
15. Percentage of children under – five with diarrhoea that received zinc tablets with Lo ORS for management of diarrhoea
16. Percentage of households with iodized salt
17. Percentage of household that have access to bundled zinc supplements with low osmolarity ORS in the management of childhood diarrhoea
18. Percentage of health facilities that have stock of bundled zinc + ORS for the management of diarrhoea of under – five children
19. Percentage of health facilities that treated children under five diarrhoea using zinc supplements and ORS
20. Percentage of healthcare facility that receive Vitamin A capsule

Selected Indicators for Quality of care of children under 5 (MNDC)

- Percentage of children (6 – 11months) that received vitamin A supplements in the last 6months
- Percentage children (6 – 59months who received vitamin A supplements twice in the last 12months
- Percentage of children (6-59 months) with measles treated using vitamin A

- Percentage of children (6-59 months) that have received MNP

Table 6: Quality of care of Micronutrient Deficiency Control for children under 5

S/N	Core Indicator	Numerator	Denominator	Data source	Methods
1	Percentage of children aged (6 – 11months) that received vitamin A supplements in the last 6months	No. of children aged (6- 11 months) who have received vitamin A	Total number of children aged (6-11 months) who visited the health facility	HMIS NUT/GMP information daily register	Collected from DHIS 2 Platform
2	Percentage children aged (6 – 59months) who received vitamin A supplements twice in the last 12months	No. of children aged (6 – 59months) who received vitamin A supplements twice in the last 12months	Total number of children aged 6-59 months who visited the health facility in the last 12 months	HMIS NUT/GMP information daily register	Collected from DHIS 2 Platform
3	Percentage of children aged (6-59 months) with measles treated using Vitamin A	No. of children aged (6-59 months) with measles treated using vitamin A who visited the health facility	Total number of children aged (6-59 months) who visited the health facility	HMIS NUT/GMP information daily register	Collected from DHIS 2 Platform
4	Percentage of children aged (6-59 months) that have received MNP	No. of children aged (6-59 months) that have received MNP	Total number of children aged (6-59 months) who visited the health facility	HMIS NUT/GMP information daily register	Collected from DHIS 2 Platform

4.4 School Age, Adolescent and the Elderly Nutrition

Background and Introduction

Many School Age Children around the world, especially those from low-income populations, start school already stunted, underweight and/or suffering from multiple micronutrient deficiencies. [IFPRI] 2016). Increasingly, children are suffering from several forms of malnutrition, ranging from undernourishment to excessive weight or obesity, with both extremes often occurring in combination with micronutrient deficiencies. Schools provide an opportunity to prevent and manage these various forms of malnutrition and contribute to improving educational outcomes (Drake et al. 2016).

Students who have participated in school nutrition activities can further act as influencers, with a particular impact on their families and younger siblings, potentially reducing the number of children starting school already malnourished. For the poorest students, enrolling in school, attending regularly and learning are often made more difficult by illness, hunger and malnutrition. In low- and middle-income countries, about 300 million schoolchildren have iron-deficiency anaemia, causing them to lose some six IQ points per child; (Bundy D.A.P, et al, 2018) and about 73 million primary schoolchildren in low-income countries go to school hungry. (Drake, L., 2021). A study that examined the impact of COVID-19-induced disruption of school feeding services on household food security in Nigeria found that the share of household skipping a meal increased by 47 percentage points and the likelihood of going without eating for a whole day by 3 percentage points and that COVID-19-induced disruptions in educational and nutritional services increased households' food insecurity in the country. (Abay K.A et al, 2021)

For school age children, attention is required in three phases: between 5-9 years, when infection and malnutrition constrain growth, and mortality is higher than previously recognized; between 10-14 the adolescent growth spurt, when substantial physical and emotional changes require good diet and health; and the adolescent phase of growth and consolidation (ages 15 to early 20s), when new responses are needed to support brain maturation, intense social engagement and emotional control.

Nigeria has a large adolescent and youth population. More than 1 in 4 people in Nigeria are adolescents (10–19 years old) and more than 1 in 2 people in Nigeria are under 24 years. There are an estimated 22 million adolescents in Nigeria, making over one tenth of its population. The burden of diseases among adolescents has its origin in infectious and injury-related causes, but nutritional deficiencies, suboptimal linear growth, and undernutrition are major public health problems, even as overweight may be on the rise in many contexts. It is worthy to note that, adolescents can be at risk of poor eating habits, dietary excesses, nutritional deficiencies and eating disorders that sometimes resulting from risky behaviours (internet use abuse, drugs, meal skipping, junk foods) leading to nutritional complications like obesity, sexual maturation delays and poor cognitive development. Their eating habits are majorly influenced by food provider (family), Psycho-social (Food preferences, early childhood experiences, taste and appearance) and life style (time and convenience) with health having minor influence (Horacek & Neumark)

WHO defined adolescents as a group of persons between the ages of 10 and 19 years and it is a transitional phase from childhood to adulthood characterized by physiological, psychological and social changes. Adolescents make up about one-fifth of the total world's population and 22% of the population in Nigeria according to the 2006 census report, whereas young people of ages 10–24 years were approximately one-third of the total population

Christian and Smith (2018) stated that adolescent girls are the most vulnerable to the influences of cultural and gender norms, which often discriminate against them. Dietary patterns and physical activity, in addition to schooling are countervailing social norms for early marriage, influencing the health and nutritional well-being of adolescents. Nutrients including those for energy, protein, iron, calcium, and others support adequate growth and development of adolescents. In settings where dietary intakes are suboptimal, anemia and micronutrient deficiencies are high. Endocrine factors are essential for promoting normal adolescent growth and are sensitive to undernutrition. Growth velocity increases during puberty when peak height velocity occurs and catch-up is possible; in girls, about 15–25% of adult height is attained. A premature pregnancy can halt linear growth and increase the risk of adverse birth outcomes.

Adolescents in low- and middle-income countries such as Nigeria are at an increased risk of under-nutrition mainly because of poverty and inadequate food intake. There is also an increased incidence of overweight and obesity among adolescents in developing countries; this is due to the adoption of a nutrition transition lifestyle. It is established that overnutrition and under-nutrition are most times simultaneous problems in the adolescents

Since nutritional problems could begin from adolescence, especially iron deficiency anaemia, an adaptation made to improve maternal nutrition in Nigeria should include development of dietary guideline for adolescents; health education on nutrition in adolescence with emphasis on nutrient rich local foods; counselling on intake of diversified foods, that are rich in iron, energy and vitamins among others (Some of these interventions can be found in Table 7.

Strategic Objective
Promote and strengthen access of school age children, adolescents and the elderly to appropriate nutrition interventions by the year 2025

Specific Objectives-

I. Reduce undernutrition (wasting and underweight) among school age children, adolescents and the elderly by 50% by 2025
II. Reduce micronutrient deficiency disorders among school age children, adolescents and the elderly by 50% by 2025
III. Reduce further the rate of overweight and obesity by 50% among school age children, and adolescents and the elderly by 2025
IV. Reduce diet related NCDs among the elderly by 50% by 2025
V. Reduce anaemia among school age children, adolescents and the elderly by 50% by 2025
VI. Fully incorporate food and nutrition activities for the school age and adolescents into the school health programme by 2025

VII. Reach 50% of out of school children and elderly in communities with SBCC for optimal nutrition by 2025

Interventions:

Table 7: **Possible interventions in MNDC**

S/no	Objectives	Possible interventions
1	**Specific Objective 1: Reduce undernutrition (wasting and underweight) among school age children, adolescents and the elderly by 50% by 2025**	*Food supplements provided and usage encouraged* *Food demonstration sessions conducted* *Nutrition counselling and elderly home visits conducted* *Community-based prevention and treatment of diarrhoea accelerated* *Periodic and regular SBCC for healthy eating conducted* *Health Facility-based WASH services provided*
2	**Specific Objective 2: Reduce micronutrient deficiency disorders among school age children, adolescents and the elderly by 50% by 2025**	*i. Multiple micronutrient supplementation* *ii. Home and institutional fortification services promoted provided* iii. *IFA supplementation institutionalised for SA&E* *iv. SBCC on benefits and improved uptake of supplementation and fortification services conducted* *v. Deworming services provided*
	Specific Objective 3: Reduce further the rate of overweight and obesity by 50% among school age children and adolescents by 2025	*i. Awareness on diet related NCDs created* *ii. Regular SBCC for healthy eating conducted* iii. *Physical activity promoted* *iv. Legislation for the promotion of healthy diets approved*
	Specific Objective 4: Reduce diet related NCDs among the elderly by 50% by 2025	*i. Multiple micronutrient supplementation services provided* *ii. Deworming services provided* iii. *Prevention and treatment of malaria accelerated* *iv. Targeted SBCC on diet related NCDs conducted* *v. LLINs regularly distributed and usage encouraged*

	Specific Objective 5: Reduce anaemia among school age children, adolescents and the elderly by 50% by 2025	*i. IFA supplementation institutionalised for SA&E* *ii. Sustained Nutrition education/ SBCC for healthy eating supported*
	Specific Objective 6: Fully incorporate food and nutrition for the school age and adolescents into the school health programme by 2025	*i. National School Health Policy revised to integrate food and nutrition in collaboration with FME* *ii. Monitoring and supervision of nutrition-integrated school health programmes strengthened*
	Specific Objective 7: Reach 50% of out of school children and elderly in communities with SBCC for optimal nutrition by 2025	*i. Health and nutrition education delivered regularly* *ii. Legislation to promotion of healthy lifestyle and diets*
	Specific Objective 8: Strengthen Research and Nutrition Information System for school age children, adolescents and the elderly	*i. Agenda for research on nutrition interventions for school age children, adolescents and the elderly developed* *ii. Nutrition Information System to adequately disaggregate for school age children, adolescents and the elderly nutrition interventions strengthened*

Key indicators

Table 8: Interventions focusing on School Age Children and Adolescent Girl Nutrition

S/no	Interventions	Description	Target Population	Potential Delivery platform
1	Iron supplementation for school age children between 5-9	Iron -folic acid supplementation	School age children between 5-9 years	• Health facilities • Community structures • Campaigns/Outreach • Schools
2	Deworm school children 5-9- years every six months	Deworming of under 5-9 years children	School age children between 59years	• Schools, Health facilities • Community structures • Campaigns/Outreach
3	Iron-folic acid supplements for adolescent girls	Iron -folic acid supplements	Adolescents	• Health facilities • Community structures • Campaigns/Outreach • *Schools*

4	Nutrition Status of children (5-9years) and Adolescents (10-19 years)	Routine nutrition status (measurement using BMI and MUAC)	School age children ages 5-9 and Adolescents (10-19) years	• Health facilities • Community structures • Campaigns/Outreach • *Schools (clinics)*
5	Promote Adolescent Girls nutritional status	Dietary counselling during pre-pregnancy, pregnancy and lactation	Entire population	• Health facilities • Community structures • Faith Based Organizations • Campaigns/Outreach • *Schools*
6	Promote Adolescent girl nutrition	• Peer to Peer Counseling using School platforms, social media, Adolescent and Youth Friendly Health Services (AYFHS) • Partnering with musicians with popular local singers and rural folklore singers as Adolescent champions	Entire population with a focus on the rural and Urban poor -Targeting high burden LGAs	• Community structures • Faith Based Organizations • Campaigns/Outreach • Schools • AYFHS

By definition, an elderly person is one aged 60 years and above and this age group constitute about 5% (NBS, 2017) of the total population in Nigeria. Good nutrition is important at every stage of lifecycle for maintaining good health, improve productivity and overall economic development. This is especially important in older persons due to the physiological changes that have taken place in their bodies (Tanyi & Mbah, 2018). A larger proportion of the elderly are faced with undernutrition problems while others are confronted with problems associated with over nutrition. (Adebusoye, et al 2012)

Due to demographic changes such as declining fertility rate, improved health and sanitary conditions, rise in life expectancy etc., Nigeria's ageing population is increasing and those aged 65 years and above (the elderly) make up 3.1% or 5.9 million of the total population of 191 million, which in crude numbers represents an increase of 600,000 during the 5-year period 2012–2017 (Population Reference Bureau, 2012) (National Council on Ageing 2016).

A wide gap exists in the knowledge of the nutritional status of older Nigerians, coupled with inadequate data indicates the potential for serious nutritional problems. The nutritional problems in the elderly are often overlooked due to implicit assumptions that nutritional deficiencies are inevitable consequences of aging and diseases. Factors like social isolation, loss of appetite and inadequate nutrition knowledge contributes to reduced food intake, poor dietary habits and increased risk of malnutrition in the elderly. These have been attributed to causing deficiencies in energy, protein and micronutrients. Common micronutrient

deficiencies in the elderly people include calcium, iron, zinc, vitamin D, vitamin C, magnesium, Vitamin E, vitamin B6, protein (Aperion Care (2020). In addition, studies have shown that social isolation and loneliness among the elderly has been linked to higher risks for a variety of nutrition-related non-communicable diseases such as; cardiovascular diseases, obesity, weakened immune system as well as physical and mental conditions like depression, cognitive decline and even death (Gacioppo & Gacioppo, 2014).

It is worthy of note that Nigeria has no functional national policy addressing geriatric nutrition issues. Therefore, the need to articulate strategies for the elderly in NSPAN2 cannot be overemphasized.

Proposed Interventions

Based on the recommendations given, the following interventions in Table 8 should be considered;

Table 9: Planned Interventions, their delivery platforms and the target populations.

Interventions	**Description**	**Target Population**	**Planned delivery platforms**
Nutrition Education (SBCC)	Awareness creation for better dietary choices and practices	General population	Schools, Health facilities, workplaces, communities, media, faith-based Organizations
Promotion of Diet Diversity	Promotion of daily consumption of variety of foods from all sources. , especially animal-sourced proteins	General Population	Schools, Health facilities, workplaces, communities, media FBOs
Routine Biochemical Assessment of micronutrients status	Routine biochemical assessment of micronutrients status	Elderly Population with high prevalence (60 years and above).	Health facilities, Communities
Promotion of physical activity	Promotion of regular physical activity	Elderly Population with high prevalence (60 years and above).	Schools, Health facilities, workplaces, communities and associations, FBOs, media
Micronutrients intake and supplementation			
Calcium	Promotion of intake of diet rich in calcium and supplementation of calcium	Children, Adolescents and Elderly Population with high prevalence (60 years and above).	Schools, Health facilities, workplaces, communities and associations, FBOs, media
Vitamin D Supplementation	Vitamin Supplementation	Children, Adolescents and Elderly	Health facilities and households

Interventions	Description	Target Population	Planned delivery platforms
		Population with high prevalence (60 years and above).	
Vitamin C	Promotion of intake of diet rich in vitamin C and supplementation of calcium	Children, Adolescents and Elderly Population with high prevalence (60 years and above).	Schools, Health facilities, workplaces, communities and associations, FBOs, media
Magnesium	Promote consumption of dietary intake of foods rich in magnesium rich food	Children, Adolescents and Elderly Population with high prevalence (60 years and above).	Schools ,Health facilities, workplaces, communities and associations, FBOs, media
Iron	Promote consumption of dietary intake of foods rich in iron rich food	Children, Adolescents and Elderly Population with high prevalence (60 years and above).	Schools ,Health facilities, workplaces, communities and associations, FBOs, media
Zinc	Promote consumption of dietary intake of foods rich in zinc rich food	Children, Adolescents and Elderly Population with high prevalence (60 years and above).	Schools ,Health facilities, workplaces, communities and associations, FBOs, media
Vitamin E	Promote consumption of Vitamin E - rich foods	Children, Adolescents and Elderly Population with high prevalence (60 years and above).	Schools ,Health facilities, workplaces, communities and associations, FBOs, media
Vitamin B6	Vitamin B supplementation	Elderly Population with high prevalence (60 years and above).	Health facilities and households
Protein	Promote protein intake and aerobic exercise	Children, Adolescents and Elderly Population with high prevalence (60 years and above).	School, Health facilities, workplaces, communities and associations, FBOs, media

4.5 Diet- Nutrition Related Non-Communicable Diseases

Globally, 41 million people die as a result of non-communicable diseases (NCDs) (WHO, 2021). Thus, NCDs are the leading cause of mortality worldwide responsible for 71% of all global deaths (WHO, 2021). Annually, more than 15 million people die from NCD between the ages of 30 and 69 years. Majority (85%) of the premature deaths occur in low- and middle-income countries. Generally, 77% of all NCD deaths occur in low- and middle-income countries (WHO, 2021). Nigeria, with an approximate population of 211.4 million people in 2021 (UNFPA, 2021), WHO (2018) reported 29% of NCDs prevalence in Nigeria. This is attributed to cardiovascular diseases (11%), cancer (4%), diabetes mellitus (1%), chronic respiratory diseases (2%), and Other NCDs (12%) (WHO, 2018).

Non-communicable diseases are also known as chronic diseases, which are diseases that tend to be of long duration and they result from a combination of genetic, physiological, environmental and behavioural factors (WHO, 2021). The main types of NCD are cardiovascular diseases (such as heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructive pulmonary disease and asthma) and diabetes mellitus (WHO, 2021).

There are two types of NCDs risk factors which are modifiable and non-modifiable risk factors. The non-modifiable risk factors are those that are not subject to change by the individual such as age, genetics, gender and race while the modifiable risk factors are grouped into behavioural and metabolic risk factor. The modifiable behavioural risk factors include: tobacco use, physical inactivity, consumption of unhealthy diet and the harmful use of alcohol, while the metabolic risk factors which contribute to four key metabolic changes that increase the risk of NCDs are: raised blood pressure, overweight/obesity, hyperglycemia (high blood glucose levels), and dyslipidaemia (high levels of low density lipoprotein cholesterol, triglycerides, total cholesterol, and low level of high density lipoprotein cholesterol)(WHO, 2021).

Overall target: Nigeria aligns with the global target of a 25% relative reduction in the risk of premature mortality from NCDs by 2025.

Strategic Objective: To promote the prevention, control and management of Diet-Nutrition Related Non-Communicable Diseases (DR-NCD).

Specific Objectives

1. Coordinate the prevention, control and management of DR-NCD at all levels

2. Raise awareness and understanding on the problem of DR-NCDs and its prevention
3. Improve capacity to address challenges of DR-NCDs
4. Enhance provision of quality nutrition services in the prevention, control and management of DR-NCDs
5. Enhance care giving capacity of health workers for DR-NCDs
6. Advocacy and resource allocation for management of DR-NCDs at all levels
7. Monitoring, evaluation and research on the prevention, control and management of DR-NCD.

The health and economic repercussions of the NCD trend are enormous. Millions of people are experiencing premature mortality or compromised quality of life, countries and regions are experiencing reduced productivity and declining economic growth (UNSCN, 2018). Other health consequences of NCDs include disability, loss of memory, erectile dysfunction, premature death, blindness, kidney failure among others. Cardiovascular diseases (CVDs) are the leading cause of death globally, taking an estimated 17.9 million lives each year (WHO, 2021). CVDs are a group of disorders of the heart and blood vessels and include coronary heart disease, cerebrovascular disease, rheumatic heart disease and other conditions (WHO, 2021). About 28 million Nigerians are hypertensive, with 12% receiving treatment and only 2.8% having their blood pressure under control (Adeloye et al., 2020). Excess sodium intake is responsible for about 1.65 million deaths annually (Mozaffarian et al., 2014). In Nigeria, mean daily population salt intake is 7g/day, which is greater than WHO recommended level (Adesina et. al., 2020).

Nigeria has not established a mechanism for facility level and community-wide data collection on NCD. Although FMOH in collaboration with key stakeholders has launched the 1st National Multisectoral Action Plan (NNMSAP) for the prevention and control of NCDs for Nigeria. Currently, WHO and local researchers have published hospital-based data on CVD in Nigeria (WHO, 2010; Adegoke et al., 2018; Ike & Onyema, 2020). However, there is still paucity of data availability and accessibility on NCDs in Nigeria. Furthermore, the morbidity and mortality of systemic hypertension-related complications are also on the rise in Nigeria. The burden of non-communicable Diseases in Nigeria comes in the form of loss of income from disability and increased cost of healthcare. This may relate to their higher risk profile and limited access to health interventions, which ultimately affect national productivity and development.

Some interventions which are cost-effective and evidence based were articulated to address disease prevention, control risk factors, and sustain good health (Maiyaki and Garbati, 2014) These include legislative support for appropriate investments and policies incorporated in the development and health agendas of the country. Again, there is a need to develop cost-effective and evidence-based strategic models that are culturally appropriate and resource-sensitive in line with the global recommendations on behavioural change directed at four key factors: Tobacco use, sedentary lifestyle, alcohol consumption and unhealthy diet. Such behaviour change should target individuals, families, communities, and the general

population. Prevention should be part of the national policies and should be incorporated into the health system through community actions with a multi-sectored appeal.

Key cost-effective and sustainable areas of focus for the prevention and control of DRNCDs is advocacy for the development of fiscal policies that address reduction of salt, sugar and trans-fatty acids in the food supply. These include policies on public food procurement, front-of-pack labeling of processed packaged foods to warn the public on unhealthy foods, regulating and enforcing marketing and advertisement of high salt, sugar and trans-fatty acids foods. Countries that have mandatory regulations and enforcement of these policies have seen significant reduction in prevalence of DRNCDs (PAHO and WHO, 2020).

There is a need to develop a research agenda on NCD prevalence, prevention and management in Nigeria and routine data collection for monitoring and evaluation of targeted interventions. Collaboration and funding of research is of utmost importance to generate a national data on NCD prevalence and ongoing interventions in the country. The dietary guideline for the management of NCDs in Nigeria expired in 2006. Thus, it is highly recommended that the dietary guideline for the management of NCDs in Nigeria be reviewed and updated.

Table 10 - Quality of Care for DRNCDs:

Core indicator	**Numerator**	**Denominator**	**Data source**	**Responsible person**
Proportion of persons that were screened for blood pressure	No. of hospital visits at which blood pressure was measured	Total no. of hospital visits	Out-patient record (facility-specific)	Collected by delegated staff from available records
Proportion of persons that were screened for blood glucose	No. of hospital visits at which blood glucose was measured	Total no. of hospital visits	Out-patient record (facility-specific)	Collected by delegated staff from available records
Proportion of persons that received nutrition assessment and dietary counselling	No. of hospital visits at which nutrition assessment and dietary counselling was carried out	Total no. of hospital visits	Nutrition and Dietetics department records (facility-specific)	Collected by delegated staff from available records
Proportion of persons that adhered to	No. of hospital visits at which adherence to	Total no. of hospital visits	Out-patient record	Collected by delegated staff from

treatment/lifestyle changes and have their blood pressure and blood glucose under control	treatment/lifestyle changes for persons with high blood pressure and blood glucose was observed		(facility-specific)	available records

4.6 Nutrition Information System

Strategic Objective: To strengthen nutrition programming through effective monitoring, evaluation, knowledge management, learning and research

Specific Objectives:

1. To strengthen existing data management platform (NHMIS, NDHS, MICS, NNHS) to capture nutrition data for improved data reporting and tracking;
2. To promote the culture of data demand and use for planning and decision making in nutrition programme;
3. To ensure effective monitoring and evaluation of the national nutrition programme;
4. To support coordinated implementation of nutrition research that is responsive to national needs;
5. To support the development of a robust guideline for quality nutrition information including surveillance system

This Strategic Plan will ensure investment in nutrition information system including data triangulation from multiple sources. To achieve this, a database shall be created in alignment with National Health Management Information System to keep accurate and relevant information through vertical and horizontal collation of data from the LGAs, state, and federal levels so that progress and changes are tracked and impact measured. The system shall use a simple M&E approach with the primary aim to enable planners at each level collect data that shall assist them in the ongoing planning and implementation of nutrition programmes and interventions. A feedback mechanism shall be introduced that enables "bi-directional" sharing of data through regular communication amongst stakeholders at national, state, and LGA levels. The strategic direction will include:

i. Monitoring of achievements and results;

ii. Evaluation/impact assessment;

iii. Implementation and Result Progress Report.

An 'information system' refers to an integrated set of hardware, software, data, people and procedures that produces information. Nutrition information system involves regular and systematic collection, collation, analysis and dissemination of data for decision-making on nutrition interventions (figure 6).

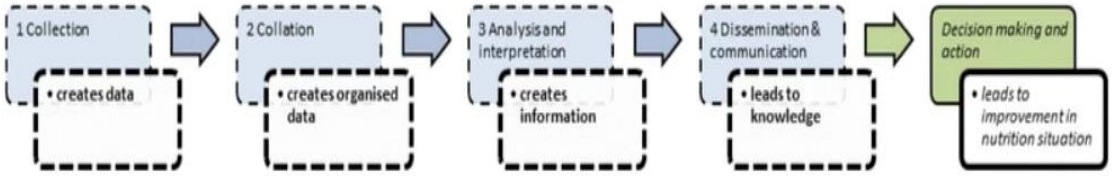


Figure 7: Steps in information system

Nutrition surveillance provides ongoing information about the nutritional conditions of the population and the factors that influence them (FAO/UNICEF/WHO Expert Committee Methodology of nutritional surveillance (WHO, 1976). There are four major methods used to collect primary data used in surveillance, these include; large-scale nationally representative surveys such as Demographic and Health Surveys (DHS), repeated smaller-scale cross-sectional surveys, community-based sentinel monitoring and the collection of height data from schoolchildren. There are three major sources of secondary data from administrative sources: feeding centres, clinics (growth monitoring and birthweight), and community-based data collection including mass screenings for malnutrition as shown in Figure 8 below.

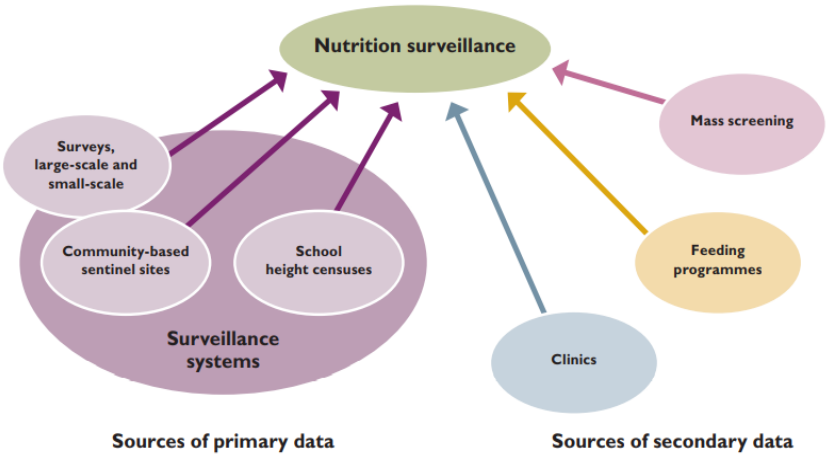


Figure 8: Sources of outcome data for nutrition surveillance

The objectives of nutrition surveillance include:

- To describe the population's nutritional status, with particular reference to defined sub-groups who are identified as being at risk;
- To provide information that will contribute to the analysis of causes and associated factors and so permit a selection of preventive measures;

- To promote decisions by governments concerning priorities and the disposal of resources to meet the needs of both normal development and emergencies;
- To enable predictions to be made on the basis of current trends in order to indicate the probable evolution of nutritional problems.

Nutrition surveillance is regarded as a subset of a holistic nutrition information system as presented in figure 8 above.

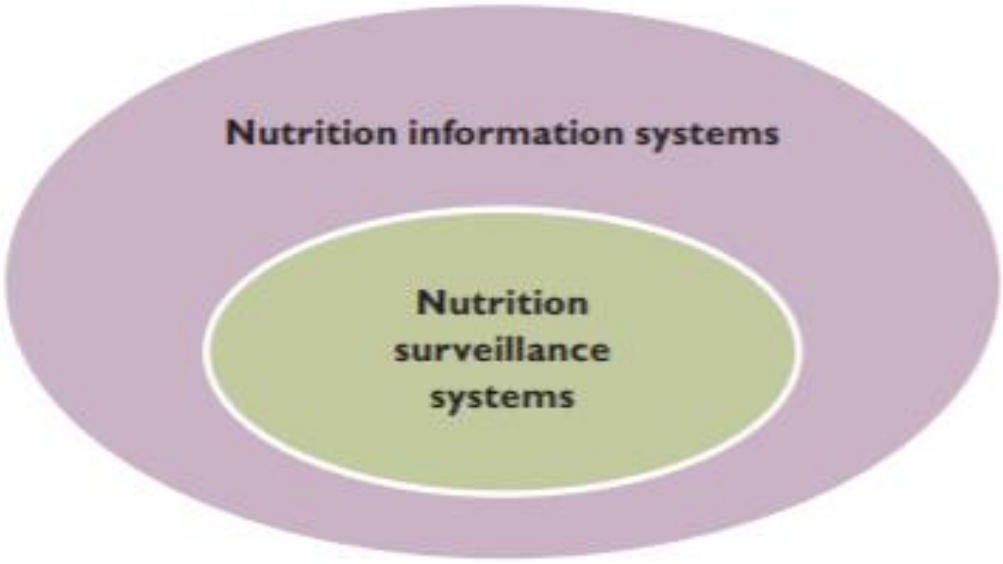


Figure 9: Relationship between nutrition information system and nutrition surveillance system

Nutrition information and surveillance system is a process of monitoring trends in the nutrition situation over time to inform decision-making. It informs decisions about when actions are needed and guides the choice of actions, such as making or amending policies, introducing a programme, or changing an existing programme. For these purposes, data relating to both nutritional outcomes and exposures need to be collected systematically, in which systematic refers both to the regularity of data collection and the consistent use of trusted methods.

The need to strengthen the Nutrition Information System (NIS) in the country, including conducting regular surveys has been well documented.

Nigeria's experience in conducting Nutrition and Health Surveys using Standardized Monitoring and Assessment of Relief and Transition (SMART) methods on an annual basis demonstrates the potential to establish a data collection system that captures progress over time. The system will focus on reducing the cost of data collection, improving data quality, and ensuring timeliness of the survey results for improved decision making. This is because the use of data is critical for timely assessment of child malnutrition level; for advocacy for

adequate funding; for verifying quality of administrative data and for tracking performance of the health system. Three main functions can be highlighted as follows:

i) Timeliness and quality of data are critical – the survey methodology addresses data quality assurance factors and using smartphone technology for field data entry enables both real-time supervision and cost-effective data management.
ii) Strategic selection of key indicators – In contrast to comprehensive household surveys, SMART survey questionnaires are intentionally limited to assessing a small set of key indicators.
iii) Institutionalization – the operations of the NIS survey are fully housed within the Federal Ministry of Health thereby ensuring resources availability and longer-term sustainability.

In addition, the National Food Consumption and Micronutrient Survey provides a veritable platform to the national nutrition information system in assessing both food consumption patterns and micronutrient (vitamin and mineral) status among vulnerable populations, including young children, adolescent girls, and women of reproductive age.

4.7 Nutrition in Emergency

Overview

Humanitarian crises exacerbate nutritional risks and often lead to an increase in acute malnutrition. Thus, a primary concern during emergencies and disasters is to prevent death and malnutrition among the affected population, prioritizing the most vulnerable groups; infants, children including adolescents, pregnant women and lactating mothers, older persons, disable people and people living with debilitating conditions. Emergencies include both man-made (conflict, banditry, insurgency, herder-farmer tensions, kidnapping etc.) and natural disasters (floods, drought, cyclones, typhoons, earthquakes, volcanic eruptions, etc.). Acute malnutrition often increases in the immediate aftermath of an emergency due to the high burden of disease and inadequate diet.

In 2021, an estimated 8.7 million people – including 1.7 million internally displaced persons and 1 million people living in inaccessible areas – will require humanitarian assistance across the Northeast alone (OCHA, 2021) . Likewise, insecurity in the Northwest has escalated with violent incidents increasing in frequency and severity due to persistent herder-farmer tensions, rising crime and organized attacks by non-state armed groups. The violence has left over 600,000 people in need and this deterioration has resulted in the proliferation of armed groups, including potential linkages with the Lake Chad Basin crisis. The COVID-19 pandemic has further exacerbated the needs of affected people in these areas (2021, Humanitarian Need Overview). Furthermore, Northcentral is not left without a crisis, Farmers-Herders crisis has caused a lot of homes destroyed, and houses burnt and over 3 Million displaced living in the IDP Camps. The states in the Southern parts of the country are also facing some challenges (Flooding, Erosion, kidnapping by unknown gunmen etc.) even though there seems to be limited data to portray the impact of these crisis.

Strategic Objective

Strengthen and promote equitable access to quality nutrition services in emergency

Specific Objectives

1. Institutionalize nutrition in emergency
2. Strengthen nutrition in emergency preparedness, response and coordination at all levels.
3. Increase awareness, advocate and mobilize resources for nutrition in emergencies.
4. Strengthen capacity to deliver quality IMAM, MIYCN and MNDC interventions to improve food and nutrition situation in emergency.
5. Strengthen resilience to shocks to address nutrition insecurity in emergency.
6. Improve information management systems including, research, monitoring and evaluation to inform evidence-based nutrition in emergency programming.

The Cadre Harmonise Analysis projected food and nutrition insecurity situation in 16 states and FCT between June to August 2021, affecting an estimated 13 million people. This is a tremendous increase from an estimated 3 million people between March to May 2015. This situation, coupled with existing poor nutrition indices in the country, is exacerbating the vulnerability of the crisis-affected population especially children and women. The nutrition indices show that 37% children are stunted (short for their age), 7% are wasted (thin for their height), 22% are underweight (thin for their age), 2% are overweight (heavy for their height), 68% of children aged 6-59 months and 58% of women aged 15-49 are anaemic. These indicators are even worse in the Northeast and Northwest regions (NDHS, 2018).

Severely acutely malnourished children are twelve times more likely to die. The majority of these children (two-thirds) live in South Asia and Sub-Saharan Africa including Nigeria. While acute malnutrition indicates the severity of emergencies in the current situation, chronic malnutrition, or stunting, is also prevalent in the same populations due to long standing emergencies and the effects of extreme poverty and inadequate resilience in social and economic structures.

Emergencies can also have a negative impact on stunting, maternal, infant and young child feeding practices, and micronutrient status especially among the vulnerable groups.

The COVID-19 pandemic is a health and human crisis threatening the food and nutrition security of millions of people around the world. Prior to COVID-19 pandemic, hundreds of millions of people were already suffering from hunger and malnutrition globally and, unless immediate action is taken, we could see a global food emergency. In the longer term, the combined effects of COVID-19, corresponding mitigation measures which have negatively impacted livelihoods, and the emerging global recession could, without large-scale coordinated action, disrupt the functioning of food systems. Such disruption can result in severe consequences for health and nutrition for more than half a century.

Nutrition in Emergency Preparedness and Response

Nutrition in Emergency requires adequate preparedness and response planning.

Nutrition in Emergency preparedness can be defined as a state of readiness to respond to a disaster, crisis or any other type of emergency situation.

Preparedness consists of the mechanisms and systems put in place in advance to enable an effective and timely humanitarian response to humanitarian crisis, based on an analysis of the risks in a particular context, and taking into account national and state capacities as well as development partners comparative advantage and include the following:

- Clarifying the responsibilities of government agencies and partners regarding nutrition in emergency situations; strengthen existing coordination mechanisms or, if unavailable,

create them in collaboration with partners to ensure that the response is timely and coordinated, and that it conforms to agreed-upon standards.

- Pre-positioning nutrition supplies
- Mapping capacities as well as existing communication channels to identify the most effective ones for nutrition information dissemination, and draft appropriate nutrition messages to be incorporated into multi-sectoral communication initiatives.

Nutrition in Emergency response is a combination of actions taken within the initial minutes of an emergency to address various situations of the emergency and shall include the following:

Strengthen and/or establish a nutrition sector coordination mechanism to ensure rapid assessment of the nutrition sector; prepare a nutrition sector plan of action, coordinate the implementation of a harmonized and appropriate response to address all critical nutrition vulnerabilities identified in the rapid assessment, especially for U5 children and women.

Undertake a multi-sectoral rapid assessment, including key priority information for nutrition, within the first week of an emergency, and a rapid household-level nutrition assessment within six weeks.

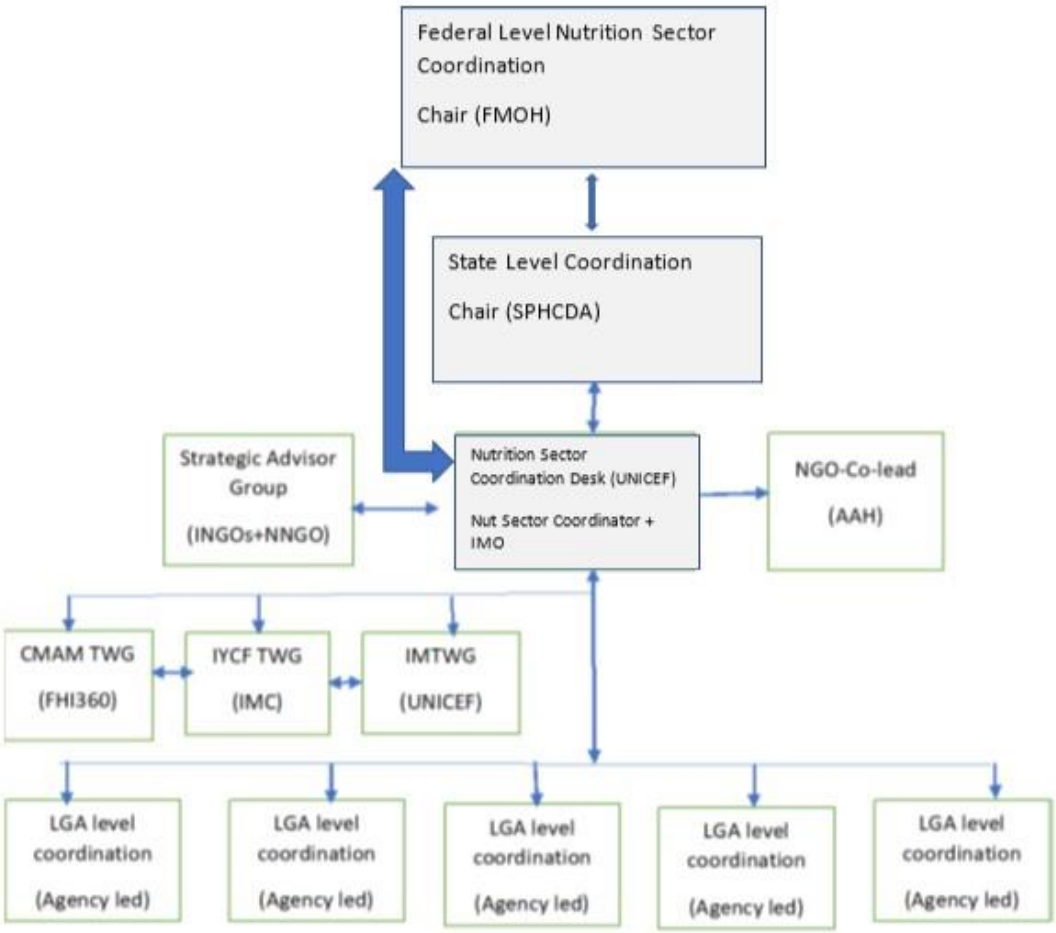


Figure 10: showing Coordination of NIE in Nigeria

Information Required for Management of Nutrition in Emergencies

Effective management of emergencies requires accurate information which includes the following:

1. Population size, geographic dispersal of population, map of affected area including location of camps, etc.
2. Age groups
3. Current nutritional status
4. Nutritional deficiencies and endemic diseases
5. Purchasing power, coping mechanisms and market prices
6. Access to potable water
7. Fuel supply
8. Access to food, seeds, tools, etc.

9. Seasonality and forecast system
10. Cultural beliefs, taboos
11. Threats to security, political, and military situations
12. Underlying causes of the crisis and so on

In major emergencies, the most urgently needed action is to prevent death and illness caused by malnutrition. Basic energy and protein requirements are of primary concern, but micronutrient needs must also be met if blindness, disability including birth defects, and increased mortality are to be avoided.

Nutrient Requirements During Emergencies

Daily energy requirement and safe protein intake

WHO (1985) technical report No 724 estimated the mean daily per capita energy requirement of 2,100 kcal based on the following assumptions:

- The age/sex distribution of the population is characteristic of developing countries.
- The mean height of adult men and women are 169 and 155 cm, respectively, which is the approximate value in sub-Saharan Africa.
- The body mass index (Kg/m^2) is between 20 to 22.
- Physical activity is light.
- All infants are breast-fed from birth to six months, and half of the infants of 6 to 11 months are still breast-feeding and derive half of their energy and protein requirements from breast milk.

Safe daily protein intake from an average mixed diet of cereals, pulses, and vegetables is estimated to be 46g.

Interventions for Nutrition in Emergency

Acute Malnutrition

Even in normal times, acute malnutrition (severe and moderate forms) is a problem in Nigeria and in other developing countries commonly affecting children between ages of six months to five years; in times of nutrition emergencies. Primarily, severe acute malnutrition is the most common in emergency and is characterized by rapid loss of weight. This may affect a larger number of older children, adolescents, and adults than usual. Infants and children suffering from Severe Acute Malnutrition (SAM) must be treated as soon as possible to avoid deaths resulting from hunger.

A. Interventions to address acute malnutrition in emergency include;

- Early initiation of breastfeeding within 1hour of birth *where feasible.*
- Exclusive breastfeeding from birth to the age of 6 months.

- Provision of appropriate complementary feeding from 6 months and continue breastfeeding up to 2years or beyond.

NOTE: The use of Breast Milk Substitutes (BMS) should be in accordance with the provisions of Infant and young child feeding guideline of FMOH.

- Selective feeding program should be initiated for acutely malnourished individuals and these include Supplementary Feeding Programs (SFP) providing extra 500 to 700 kcal/day from cooked food or by distribution of dry take-home rations (1000 – 1200 kcal/day). Breast-feeding must be encouraged.

- Blanket SFP should be needed only temporarily when malnutrition rates [weight for height Z-score is below median –2 Standard Deviation (SD)] or MUAC between 11.5cm and 12.5cm, exceeds 15 or 10% in the presence of other aggravating factors. Targeted supplementary feeding (i.e., extra food given to selected individuals) is indicated if the malnutrition rate exceeds 10 or 5% in presence of other aggravating factors, e.g., high mortality and/or epidemic infectious diseases.

- Therapeutic feeding is required to reduce the death rate among infants and young children with severe acute malnutrition. Such children without medical complications should be provided with nutrition and medical care. Ready – To- Use Therapeutic Food (RUTF) ration should be provided according to their body weight and appropriate medical care (as contained in National CMAM Guidelines). Children with SAM and medical complications or SAM infants less than 6 months should be referred to a stabilization center where close medical care and feeding would be provided on a 24-hour basis (As contained in National In-patient Guideline).

- Nutrition education is vital in emergencies to support and strengthen key MIYCN and household practices to promote health and nutrition which will result in reduced infections and mortality rate especially among the most vulnerable group. Key nutrition messages can be disseminated through several media and platforms including community and health facilities.

Interventions for Micronutrient Deficiencies Control

Micronutrient deficiencies are more common during emergencies due to lack of diversified food items and non-availability of fresh foods. All forms of vitamin and micronutrient deficiency diseases can be seen in affected population if preventive measures have not been taken in time. These include iron deficiency anemia, vitamin A deficiency blindness, beriberi, pellagra, edema, goiters and so on.

There are several approaches for preventing onset of micronutrient deficiencies in emergency situation affecting large populations, which are as follows:

- Provision of diversified diets such as pulses, groundnuts, fresh fruits, vegetables, and palm oil and micronutrient fortified foods provided in ration, cereals/pulse blends, iodized salt, vitamin A enriched skim milk, vegetable oils etc.

- Provision of vitamin A supplements to children 6-59months.

- Provision of micronutrient powder for home fortification of complementary foods for children 6-59 months.
- Provision of Iron Folate or MMS for pregnant women.

Key Indicators

- Percentage of children 0-23 months who are put to breast within one hour of birth.
- Percentage of children 0 – 23 months who received prelacteal feeds (any food or liquid fed to infants before Breastmilk) in the first 3 days of life.
- Percentage of infants 0-5 months of age who were fed exclusively with breast during the previous day.
- Percentage of infants 0-5months of age who were fed formula and/or animal milk in addition to breast milk during the previous day.
- Percentage of children 12-23months of age who are fed breast milk during the previous day.
- Percentage of children with a low height for age (height for age < –2 SD of the WHO Child Growth Standards median).
- Percentage of children who have low weight for age (< –2 standard deviations (SD) of the WHO Child Growth Standards median.
- Percentage of children who have low weight for height (< –2 SD of the WHO Child Growth Standards median or MUAC <12.5cm).
- Percentage of children with excess weight for height (> +2 SD of the WHO Child Growth Standards median).
- Percentage of children 6 – 59 months who received Vitamin A supplements.
- Percentage of children 6 – 59 months who received 90 sachets of micronutrient powder.
- Percentage of pregnant women who received IFA supplements for 6 months during pregnancy.

Table 11: Prevalence and Cut-off Values of key indicators

Indicator	**Prevalence cut-off values for public health significance**
Underweight	< 10%: Low prevalence 10-19%: Medium prevalence 20-29%: High prevalence ≥ 30%: Very high prevalence
Stunting	< 20%: Low prevalence 20-29%: Medium prevalence 30-39%: High prevalence ≥ 40%: Very high prevalence
Wasting	< 5%: Acceptable 5-9%: Poor 10-14%: Serious ≥ 15%: Critical

Table 12: Prevalence threshold of Wasting, Overweight and Stunting

LABELS	PREVALENCE THRESHOLD (1%)		
	Wasting	Overweight	Stunting
Very Low	<2.5	< 2.5	< 2.5
Low	2.5 - < 5	2.5 - < 5	2.5 - <10
Medium	5 - < 10	5 - < 10	10 - <20
High	10 - < 15	10 - <15	20 - < 30
Very High	>/ 15	>/15	>/30

Assessment and Surveillance of Nutritional Status and Relief Measures in Emergencies

During nutrition emergency, relief foods may be scarce and may need to be provided preferentially (targeted) to the vulnerable people especially children, women, and elderly. Food relief programs should be planned and implemented based on initial, rapid nutrition assessment followed by systemic surveys and continuous monitoring (surveillance) of nutritional status. Suitable arrangements must be made for evaluating nutritional status at levels to assess burden of malnutrition, composition of emergency ration; and ensure that fuel and cooking utensils are available.

Table 13: QUALITY OF CARE FOR NUTRITION IN EMERGENCY

S/no	CORE INDICATOR	NUMERATOR	DENOMINATOR	DATA SOURCE	METHODS
	Percentage of health facilities reaching more than 75% cured rate management of SAM	Number of health facilities with more than 75% cured rate for SAM	Total number of health facilities managing SAM	Administrative data	Collected by designated Officers
	Percentage of health facilities with less than 15% defaulter rate for SAM	Number of health facilities with less than 15% defaulter rate for SAM	Total number of health facilities managing SAM	Administrative data	Collected by designated Officers

	Percentage of health facilities with less than 15% defaulter rate for SAM	Number of health facilities with less than 15% defaulter rate for SAM	Total number of health facilities managing SAM	Administrative data	Collected by designated Officers
	Proportion of health workers trained to provide quality IMAM, MIYCN and MNDC services	Number of health workers trained to provide quality IMAM, MIYCN and MNDC services	Total number of health workers	Training report	

4.8 Nutrition Commodities Logistics Management System (Nut-CLMS)

Logistics has become a complex process in which organizations need to manage their entire supply chain efficiently. Logistics management is the movement of goods from manufacturer to the end users. A logistics management information system (LMIS) is a system of records and reports, paper-based or electronic used to aggregate, analyze, validate and display data (from all levels of the logistics system) that can be used to make informed decisions and manage the supply chain.

Elements of the supply chain system include: forecasting, budgeting and planning, procurement, delivery and clearance, inspection, warehousing and distribution, monitoring and evaluation.

STRATEGIC OBJECTIVE

Promote and strengthen Nutrition Commodities Logistics Management System.

SPECIFIC OBJECTIVES

Specific Objective 1: Strengthen integrated Nutrition Commodities Logistics Management System that coordinates all procurement activities of nutrition commodities into a national platform (NHLMIS).

Specific Objective 2: Ensure availability, quality and use of the nutrition commodities

Specific Objective 3. Promote advocacy and communication on logistics process and management at various levels

Specific objective 4: Build capacity of nutrition programme officers at all levels

Specific objective 5. Strengthen provision of quality Nutrition CLMS services.

Specific objective 6. Strengthen data management of NUT-CLMS

INDICATORS

- Proportion of health facilities that had stock-outs of essential nutrition commodities for mothers and children in the past two months
- Proportion of health facilities with functional weighing scale, MUAC tape, length board, etc.
- Proportion of health facilities that reported stock level of preceding month.

USAID (2013) stated that the goal of every public health logistics system is to help ensure that every end user has commodity security. A properly functioning supply chain is a critical part of ensuring commodity security. Financing, policies, and commitment are also necessary. Commodity security exists when every person is able to obtain and use quality essential health supplies whenever he or she needs them.

In order to scale up interventions effectively, there must be many elements in place - updated protocols and guidelines, trained staff, campaigns to generate demand for services, and nutrition commodities to be distributed. It is well understood that the success of the NSPAN is reliant on having a system that ensures reliable and timely delivery of nutrition commodities throughout the country, especially reaching vulnerable populations. As part of this plan, a Nutrition Commodities Logistics Management System (Nut-CLMS) has been developed for implementation which identifies routine schedules for key nutritional commodities and efficient delivery mechanisms that limit stock out and wastages at all health facilities and community distribution points. Having such nutrition commodities logistic management system in place will help in forecasting, financing, procurement, and delivery of quality commodities throughout the country. This Nut-CLMS will be integrated into the Nigeria Health Logistics Management Information System for more visibility into the country stock situation like the existing public health programs in the NHLMIS such as Malaria, TB/ Leprosy, Family Planning, MNCH and HIV/AIDS.

The NSPAN relies on various points at the facility and community level to deliver interventions and services and will need to develop operating procedures that work in these different contexts. The community level delivery of services is one area in particular where many potential challenges exist due to resource constraints and varied levels of engagement and organization. The Nut-CLMS takes into consideration the development of tools and processes in order for the system to achieve desired outcomes by integrating into the NHLMIS. The system should be able to:

1. Enable regular end user monitoring in order to provide visibility into the availability, quality, use and reporting of the nutrition commodities.

2. Create end to end visibility into the stock situation nationwide
3. Make available the nutrition program logistics data for use at any point in time in the future, since data is stored in the cloud.
4. Provide a live dashboard that analyzes the stock situation of the program.

Table 14: QUALITY OF CARE FOR NUTRITION COMMODITIES LOGISTICS MANAGEMENT SYSTEM

CORE INDICATOR	**NUMERATOR**	**DENOMINATOR**	**DATA SOURCE**	**RESPONSIBLE UNIT**
Proportion of health facilities that had stock-outs of essential nutrition commodities for mothers and children in the past two months	No. of health facilities that had stock out of essential nutrition commodities in the past two months.	Total No. of Health facilities offering nutrition services	NHLMIS, Stock Card, BIN card Store receipt vouchers, Store issue voucher, (combined requisition/ receipt/Issue Voucher)	Data Collected by (LMCU)

Proportion of health facilities with functional weighing scale, MUAC tape, Length board, etc.	No. of health facilities with functional weighing scale, MUAC tape, Length board, etc.	Total no. of Health facilities offering Nutrition services	Assessment report	Collected by (LMCU)
Proportion of health facilities that reported stock level in preceding month.	No. of health facilities that reported stock level in preceding month.	Total No. of Health facilities offering Nutrition services	Stock card, BIN card, Register	Collected by (LMCU)
Proportion of health facilities that reported expired stocks	Number of health facilities that reported expired stocks	Total No. of Health facilities offering Nutrition services	Stock card, BIN card, Register	Collected by (LMCU)

Table 15: UNIT COST AND DELIVERY PLATFORM OF NUTRITION COMMODITIES EQUIPMENT AND SUPPLIES

Commodities	Intervention	Unit cost (US$ per beneficiary per year)	Delivery Platform
	1. Community nutrition programs for behavior change communication and growth promotion	$5.0	Community nutrition programs
Vitamin A capsules (100,000IU) for children 6 – 11 months	2A. Vitamin A supplementation	$0.44	MNCH weeks
Vitamin A capsules (200,000IU) for children 12 -59 months	2B. Vitamin A supplementation	$0.44	MNCH weeks
Zinc + LO-ORS	3. Therapeutic zinc supplements with ORS	$0.86	MNCH weeks
Micronutrient Powder (MNP)	4. multiple micronutrient powders	$3.0.	MNCHW, Primary health care and

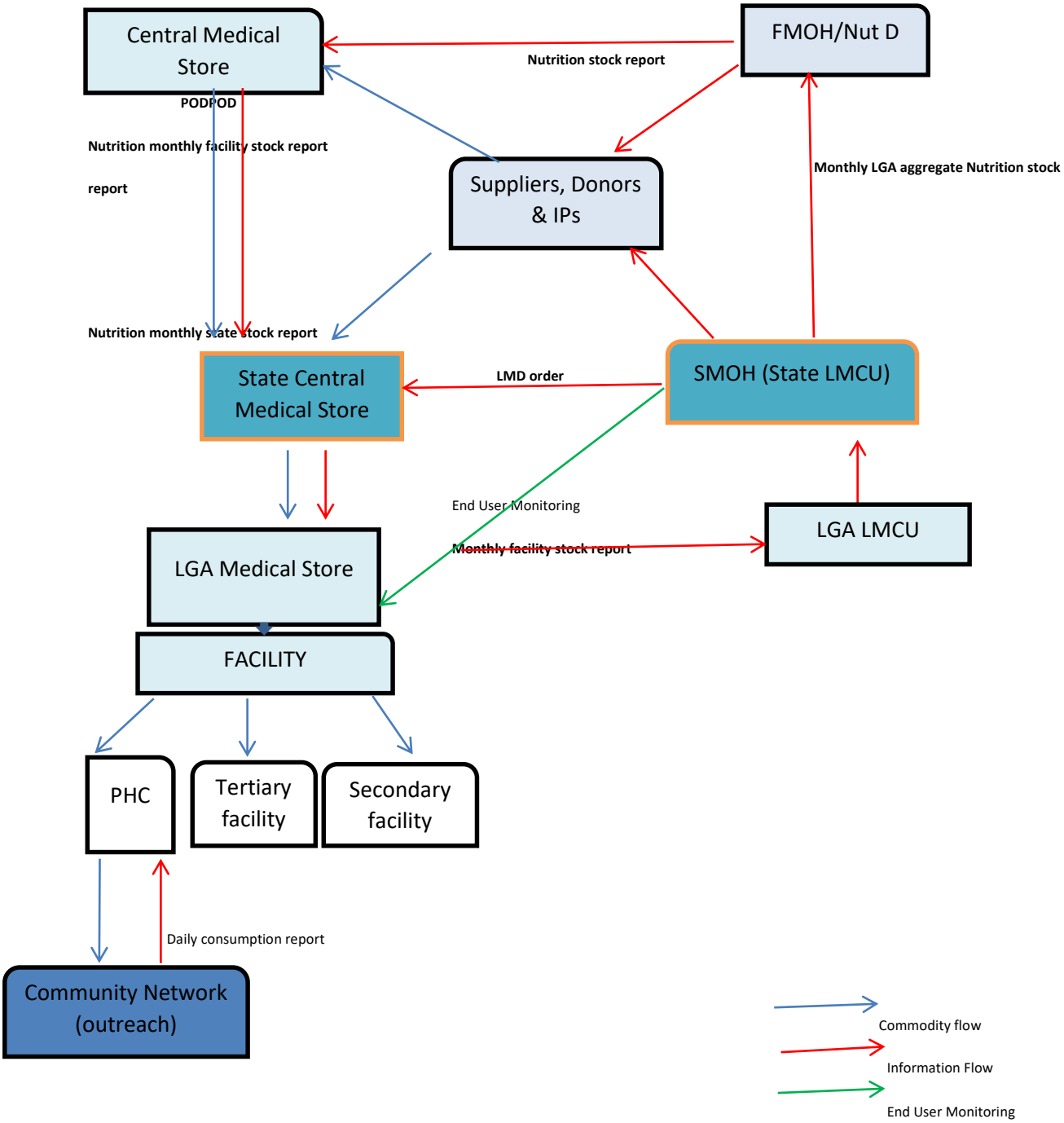
			Community Nutrition programs
Albendazole tablets	5. Deworming	$0.44	MNCH weeks
Folic acid tablets	6. Iron-folic acid supplementation of pregnant women	$1.70 (MNCH weeks) $2.00 (CNPs)	40% via MNCH weeks 60% via Community nutrition programs
IFAS	7. Iron fortification of staple foods and supplementation	$0.20	Market-based delivery system
MMS	Multiple micronutrient supplement	$1.1 Blister pack of 30 tablets. Based on UNIMMAP formula3. $1.79 bottle of 100 tablets. Based on UNIMMAP formula3.	Primary health care and Community Nutrition programs
Iodine	8. Salt iodization	$0.05	Market-based delivery system
Food vehicles	9. Complementary food for prevention or treatment of moderate malnutrition	$51.10	Community nutrition programs
Ready-to-Use Therapeutic Food	10. Treatment of severe acute malnutrition (SAM) using a Community based Management of Acute Malnutrition (CMAM) approach	$80	Primary health care and Community Nutrition programs
Therapeutic milk formula 75(F75) 800g/CAR-6	Management of Severe Acute Malnutrition with complication	$30	Secondary & Tertiary facility
Therapeutic milk formula 100(F100) 800g CAR-6	Management of Severe Acute Malnutrition with complication	$35	Secondary & Tertiary facility
ReSoMal- 42g sat/1 litre/ CAR-100	Management of Severe Acute Malnutrition with complication	$18.45	Secondary & Tertiary facility

Table 16: Some Examples of Nutrition Equipment

S/NO	*NUTRITION* EQUIPMENT	PRIMARY HEALTH FACILITY	SECONDARY HEALTH FACILITY	TERTIARY HEALTH FACILITY
REPRODUCTIVE, MATERNAL AND ADOLESCENCT HEALTH SERVICES				
1	**ADULT MUAC TAPE**	MUAC Tapes with range up to 56cm	MUAC Tapes with range up to 56cm	MUAC Tapes with range up to 56cm
2	**WEIGHING SCALE**	Electronic, mother and child 150kgx100g	Electronic, mother and child 150kgx100g	Electronic, mother and child 150kgx100g
3	**LENGTH/ HEIGHT MEASURING BOARD**	Height measuring instrument 0 up to 24metres /above 24m	Length-Height measuring instrument 0 up to 24m/above 24m	Length-Height measuring instrument (0 up to 24m)
NEONATAL HEALTH				
1	**WEIGHING SCALE**,	Scale, infant, spring type, 25kg x 100g Weighing trousers/PAC-5 SECA digital scales 150kg/100g	Scale, infant, springtype,25kg x 100g Weighing trousers/PAC-5 SECA digital scales 150kg/100g	Scale, infant, springtype,25kg x 100g Weighing trousers/PAC-5 SECA digital scales 150kg/100g
2	**LENGTH MEASURING BOARD**	Baby/infant/ length measuring System SET-2 Shorr boards	Baby/infant/ length measuring System, SET-2 Shorr boards	Baby/infant/length measuring system, SET-2 Shorr boards
CHILD HEALTH				
1.	**WEIGHING SCALE**	Scale, infant, spring type, 25kg x 100g Weighing trousers/PAC-5 SECA digital scales 150kg/100g	Scale, infant, spring type, 25kg x 100g Weighing trousers/PAC-5 SECA digital scales 150kg/100g	Scale, infant, spring type, 25kg x 100g Weighing trousers/PAC-5 SECA digital scales 150kg/100g
2	**Children Mid-Upper Arm Circumference {MUAC} TAPE**	Color-coded in red/yellow/green children's arm circumference measuring tape that range up to 25cm or 26.5cm. Red: up to 11cm. Yellow: 11 cm –	Color-coded in red/yellow/green children's arm circumference measuring tape that range up to 25cm or 26.5cm. Red: up to	Color-coded in red/yellow/green children's arm circumference measuring tape that range up to 25cm or 26.5cm. Red: up to

		12.5cm. Green: >12.5cm Packed in set of 50 tapes	11cm. Yellow: 11 cm – 12.5cm. Green: >12.5cm Packed in set of 50 tapes	11cm. Yellow: 11 cm – 12.5cm. Green: >12.5cm Packed in set of 50 tapes
3.	**HEIGHT MEASURING BOARD**	Baby/infant/adult L-ht mea. system/SET-2 Shorr boards	Baby/infant/adult L-ht mea. system/SET-2 Shorr boards	Baby/infant/adult L-ht mea. system/SET-2 Shorr boards
4.	**CONSUMMABLES/ UTENSIL**	Iodized salt test kit, food demonstration equipment, kerosene stove, table gas cookers or portable gas cylinders, Hand washing facilities, scissors for cutting vitamin A capsules	Cups and measuring jugs, blender or manual whisks, wooden ladle, sugar, Different sizes of naso-gastric tube for children, Laminated look-up charts on weight-for-height and feed volumes, Body thermometers (axillary) , maximum-minimum wall thermometers (to determine the environmental temperatures during the day and night), calculators, Multi-charts(Critical care charts, feeding charts), transfer forms, SAM record books, toilet soaps, Toys for the children), scissors for cutting vitamin A capsules	Cups and measuring jugs, blender or manual whisks, wooden ladle, sugar, Different sizes of naso-gastric tube for children, Laminated look-up charts on weight-for-height and feed volumes, Body thermometers (axillary) , maximum-minimum wall thermometers (to determine the environmental temperatures during the day and night), calculators, Multi-charts(Critical care charts, feeding charts), transfer forms, SAM record books, toilet soaps, Toys for the children, scissors for cutting vitamin A capsules

Figure 11: NUTRITION COMMODITIES LOGISTICS MANAGEMENT SYSTEM (NCLMS) IN NIGERIA



5.0 NSPAN Strategies

NSPAN Strategies

These Seven cross-cutting strategies have been identified to achieve the objectives of the plan and they include the following:

1. Social Behaviour Change Communication

2. Service Delivery

3. Capacity Building

4. Advocacy and Resource Mobilization

5. Monitoring, Evaluation, Knowledge Management, Learning and Research

6. Coordination and Multi-Sectoral Partnerships

7. Quality of Care;

5.1. Social Behaviour change communication strategy guides the design of interventions, establishing intended audiences, setting behavioural communication objectives and determining consistent messages materials and activities across channels. (SBCC) is an effective way of improving the nutritional status of a population by providing them with appropriate information about food and healthy feeding practices that enhance positive outcomes. Encouraging behavior change needs to go beyond reaching mothers, recognizing that fathers and a variety of local service providers play critical supporting roles.

This strategy was well deployed in Infant and Young Child feeding programmes. It's important that these strategies are well deployed for interventions purposes. However, there is need to have a holistic behaviour change communication strategies document for the delivery of major nutrition interventions in the current NSPAN.

Programs are designed on the basis of existing data and they follow a systematic process, analyzing the problem in order to define barriers and motivators to change, and design a comprehensive set of tailored interventions that promote the desired behavior. (Breakthrough Action, 2017)

5.2 Service delivery is the interaction between providers and clients where the provider offers a service to the client who may find value in such or not WHO (2010) noted that service provision or delivery is an immediate output of the inputs into the health system, such as the health workforce, procurement and supplies, and financing. Increased inputs should lead to

improved service delivery and enhanced access to services. The network of a service delivery should have the following characteristics; Comprehensiveness, accessibility, continuity, people centeredness, coordination, accountability and efficiency. Thus strengthening service delivery is crucial at all levels of Government, and examples include the delivery of interventions to reduce child mortality, maternal mortality etc. Nutrition interventions must be delivered at scale and with high coverage

5.3 Capacity building (or capacity development) is the process by which individuals and organizations obtain, improve, and retain the skills, knowledge, tools, equipment, and other resources needed to do their jobs competently. It allows individuals and organizations to perform at a greater capacity (larger scale, larger audience, larger impact, etc.). Capacity development process must take place at individual level, the organizational level and the enabling environment level. There is now emerging agreement in the development community that capacity development is the engine of human development. It begins with the principle that people are best empowered to realize their full potential when the means of development are sustainable. UNDP sees capacity development as the process through which individuals, organizations and societies obtain, strengthen and maintain the capabilities to set and achieve their own development objectives over time. For an activity to meet the standard of capacity development as practiced and promoted by UNDP, it must bring about transformation that is generated and sustained over time from within. Transformation of this kind goes beyond performing tasks; instead, it is more a matter of changing mindsets and attitudes. (UNDP, 2009)

5.4 Advocacy, *C*ommunication and Social Mobilization (ACSM): Advocacy is a process aimed at influencing decisions within political, economic or social institutions with a view to facilitate change in order to tackle unmet needs or deal with emerging issues in a given setting. The change advocacy seeks to engender may include, awareness creation, resource mobilization etc. There is need for a holistic approach at advocacy involving health professionals, media, civil society organizations among others.

Advocacy is an important strategy to improve and strengthen governance, capacity to deliver, increased awareness, increased demand and adoption of nutrition services and practices at all levels within the country. This strategy aims to ensure that advocacy, communication and social mobilization is strengthened among the nutrition-specific nutrition-sensitive actors to achieve optimal nutrition outcome.

5.5 Monitoring, Evaluation, Knowledge Management, Learning and Research

To understand the scope of the problem of malnutrition throughout the country and to measure progress in addressing it, the nutritional status of the population must be monitored on a regular basis. This requires the collection and collation of nutrition data, its analysis, and management. Evaluation is central to determining the relevance and achievement of objectives, development efficiency, effectiveness, impact, and sustainability.

Knowledge Management, Learning and Research is critical to boosting a programme's efficiency and effectiveness in achieving its goals. KML and Research can improve coordination, enhance learning and knowledge application, and improve capacity, thus heightening service quality, strengthening health systems, and, ultimately, improving nutrition outcomes. The center point of KML lies in the systematic process of collecting and curating knowledge and connecting people to it so they can act effectively.

5.6 Coordination and Multi-Sectoral Partnerships:

Due to the existence of multiple causes of malnutrition, action is needed across a range of sectors including health, food and agriculture, water supply and sanitation, education, social protection and others. Coordination and Multi-sectoral partnership is a veritable strategy for optimizing the use of available resources and facilitating synergy for the achievement of results. Improved public-private partnership and collaboration with non-state actors can increase the opportunities for delivering and scaling up nutrition services. The FMOH will collaborate with the private sector to scale up the availability and increase the affordability of basic package of nutrition-specific services.

6.0 Delivery platforms

The three delivery platforms of delivering the strategies to the population include:

1. Through the Mobile and Fixed health system;

2. Through community structures; and

3. Through national campaigns, outreach and special activities.

These platforms were chosen on their ability to have maximum reach, target and provide services to the most vulnerable groups in the population, and their cost effectiveness in delivering these strategies and interventions.

In choosing these platforms, it is necessary that they have maximum reach, are able to target and provide services to the most vulnerable groups in the population, and are cost-effective in delivering these strategies and interventions. A huge focus will be placed on strengthening the primary healthcare service delivery points to provide the basic prevention and curative nutrition interventions as they are closest to the people. Communities will be empowered to proactively work towards reducing malnutrition and its effects in order to improve the health outcomes, while highly successful campaigns and outreach programmes such as the MNCH weeks will be leveraged further to increase reach, especially in the areas of micronutrient deficiency control, as they provide a huge opportunity to cover indigent groups who can ordinarily not afford healthcare services through the facilities. Activities will be grouped to ensure that a comprehensive suite of interventions, which cover all of the priority areas, are provided through each of these platforms and targeted at the right groups.

7.0 Monitoring, Evaluation, Knowledge Management, Learning and Research

To understand the scope of the problem of malnutrition throughout the country and to measure progress in addressing it, the nutritional status of the population must be monitored on a regular basis. This requires the collection and collation of nutritional data, its analysis and management. A robust results framework and M&E system will be put in place for implementation and results to be reported in a timely and efficient manner. In addition, transparent feedback loops will be established with implementing agencies, stakeholders, and the public.

Monitoring and evaluation will help extract relevant information from past and ongoing activities that can be used as the basis for programmatic fine-tuning, reorientation, and future planning. Without effective planning for M&E, it would be impossible to evaluate if activities are going as planned, whether progress and success can be claimed, and how future efforts might be improved.

Programmes and projects with strong M&E components tend to stay on track. Additionally, problems are often detected earlier, which reduces the likelihood of having major cost overruns or time delays later. The role of M&E will be to provide a strategic link with the NFNP, and ensure that strategies are dynamic and more effective in responding to the nutrition challenges in the country. The following will be generated:

• Overall performance of the NSPAN;

• Coverage of nutrition interventions and services to groups that are at risk such as women and children; • Maternal and child epidemiology related to nutrition; and

• Effects of nutrition policies, strategies on nutrition outcomes

Overview

Monitoring and Evaluation of nutrition interventions allows progress to be determined, to take informed decisions to remedy identified gaps to determine the progress and the nutritional status of the population must be monitored on a regular basis. This requires the collection, collation, validation, analysis, and dissemination. It is necessary therefore to put in

place a results framework and M&E system and reporting system for the implementation system for timely reporting.

Monitoring is a continuous function that uses the systematic collection of data on specified indicators, to provide management and stakeholders of an ongoing development intervention with indications of the extent of progress and achievement of objectives and progress in the use of allocated funds (Organization for Economic Co-operation and Development). Monitoring embodies the regular tracking of inputs, activities, outputs, outcomes and impacts of development activities at the project, program, sector, and national levels

Monitoring of the activities in the action plan will be done through routine collection, collation, verification, validation, analysis, interpretation and reporting through the use of national tools.

Evaluation is the systematic and objective assessment of an ongoing or completed project, program, or policy, including its design, implementation, and results. The aim is to determine the relevance and fulfillment of objectives, development efficiency, effectiveness, impact, and sustainability. An evaluation should provide information that is credible and useful, enabling the incorporation of lessons learned into the decision-making process. (Organization for Economic Co-operation and Development).

It is clear that monitoring and evaluation are distinct yet complementary. Monitoring gives information on where a policy, program, or project is at any given time (and over an extended period) relative to its targets and outcome goals. It is descriptive. Evaluation gives evidence about why targets and outcomes are, or are not, being achieved. It explores causality.

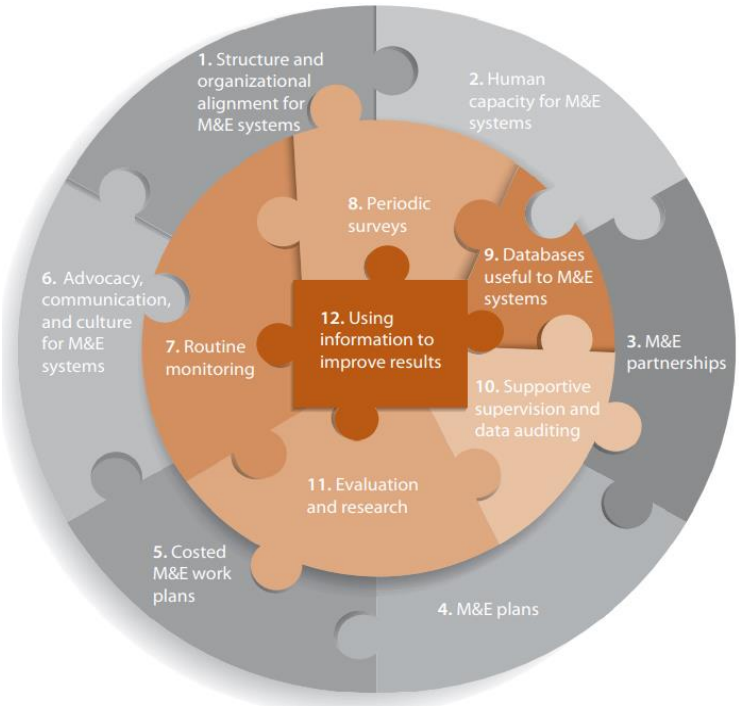
Inputs: inputs are resources that go into the programme at the start-up phase or during implementation to help the programme achieve its objectives. For example, the number and qualification of personnel, financial resources, institutional set-up, timing, etc. These must be such that they meet the requirements to achieve the objective.

Outputs are all the goods and services delivered to the target population by the programme. Programme inputs have to be transformed into outputs. The quantity and quality of the outputs is very important. For instance, if one programme input were the training of nutrition service providers, an output would be the number of trained nutrition service providers. The quality of the training should also be "adequate," otherwise just training them would not help in effectively meeting the needs of the community. It should also be understood that having very well-trained staff or people does not necessarily generate programme delivery nor impact. Success and impact are created by making sure that the trained personnel are enabled to do the work that they were trained for.

Outcomes are changes in behaviours/practices as a result of programme activities. The outputs, if of the right quantity and quality, should produce an outcome. The skills of the nutrition service providers should change, and if they do their tasks well, the detrimental behaviour/practices of the mothers should change in order to improve their children's health. The change in skills of the nutrition service providers and/or the change in behaviour/practices of the mothers is the outcome of the programme. The outcome is expected to influence the problem, as defined initially. Impacts are the effect of the programme on the beneficiaries. The change in the problem is the impact of the programme on the beneficiaries.

Assumptions are the external factors, influences, situations or conditions which are necessary for project success. They are important for the success of the programme but are largely or completely beyond the control of programme management. For example, in nutrition education, we may assume that community workers who are trained will understand the training and be motivated to do what they have been trained to do. (FMOH, 2014).

Figure 12: The 12 Components of a functional Monitoring and Evaluation System



Source: Adapted from the graphic in the publication Organizing Framework for a Functional National HIV Monitoring and Evaluation System. Geneva, UNAIDS, 2008 (http:// siteresources.worldbank.org/INTHIVAIDS/Resources/375798 – 1132695455908/

Components in the outer ring: 6 linked components related to people, partnerships, and planning that support data production and data use constitute the enabling environment for M&E to function. To sum up the components in this ring: People (Component 1) who are skilled (Component 2) and work together (Component 3) to plan (Component 4), budget and cost (Component 5), motivate for and maintain a functional M&E system (Component 6).

Components in the middle ring: 5 linked components related to data management processes that involve collection, capture, and verification of all types of M&E data. This ring of components generates the data that are essential to the M&E system just as fuel is for an

engine. Even with the most perfect enabling environment (the outer ring of components), M&E systems cannot be operational or used to manage results unless data is generated.

The inner component: This component captures the system's central purpose – to analyze data in order to create information that is disseminated as a means to inform and empower decision making at all levels. This final component of the M&E system is distinct as it represents the bull's eye in making and keeping an M&E system functional.

Individual components are linked and therefore inter-dependent (within and across the three "rings"): The graphic above illustrates the different components and rings as intersecting and interlocking parts of an integral whole, reflecting the inter-dependence of the 12 individual components and the three rings. Without aligned organizational structures, for example, collecting routine data or getting people to work together would be difficult. Although there is a need to make each component functional, it should be borne in mind that the components depend on each other. These 12 Components are not implementation steps, and are not necessarily sequential.

Information Requirements

Information Requirements among the key outcomes to be monitored will include malnutrition among children under-five years and women of reproductive age, as well as effectiveness of nutrition programmes such as service delivery, nutrition education campaigns, and extent of the use of fortified foods by households. A set of key performance indicators has been identified, and will form the basis of the information management system for the NSPAN II. Indicators will comprise a mix of outcome and output indicators. The programme will minimize the use of input indicators to monitor progress. The selection of indicators to be tracked will be based on what is practical, what is results-oriented, and what helps to build programmes stronger. A robust monitoring and evaluation plan will be developed to guide the implementation of this plan and to provide a basis for policy research and planning for the next strategic plan.

Mid-Term Evaluation/Review

An efficient and constant feedback loop is critical to ensuring that the strategic plan of action is being followed. In order to make timely decisions on what is working, what is not, and what needs to change, a midterm review of the Strategic Plan of Action will be undertaken in 2023 to monitor and track progress towards meeting targets. A report will be produced which will provide an update to all stakeholders as to the progress of the plan, disseminating lessons learned, and opportunities for moving forward.

Monitoring and Evaluation Framework

The Monitoring framework will facilitate tracking and evaluation of performance against set targets, as well as serve as an accountability and learning framework for various nutrition stakeholders.

Evaluations will provide credible evidence on the performance of the NSPAN II and document what worked and did not work and will also test the effectiveness of interventions. To effectively track progress of NSPAN II implementation and performance of the target outcome and output indicators, the existing monitoring system for nutrition will be strengthened and made comprehensive and integrated.

To monitor implementation progress, a bi-annual review meeting of implementing entities and all nutrition stakeholders will be held. During these meetings, appropriate measures to address slow or off-track implementation will be developed. To evaluate the effectiveness and impact of the various programmes and interventions and the NSPAN overall, evaluations and reviews will be conducted annually, at the midpoint (2 and half years), and at the end of the implementation period (5 years).

An important aspect in measuring the performance of the NSPAN II will involve tracking the nutrition investments made through the NSPAN II regularly and transparently. This will help in better use of finance data (allocations vs expenditures) to mobilize increased resources for improved nutrition and for purposes of advocacy and better planning. The table below shows the key outcome indicators and targets that will be monitored during the 5-year plan period.

Table 17: Key Outcome Indicators and Annual Targets

NSPAN Targets	Expected Outcomes	Indicators	Baseline (NDHS 2018)	Timeframe					Source of Data
				2021	2022	2023	2024	2025	
1	Prevalence of stunting in children under five decreases	% of children under five who are stunted (< - 2 SD)	37%	37%	30%	25%	20%	18%	NDHS,
2	Prevalence of infants born low birthweight decreases	% of infants born low birth weight (<2500g)	22%	22%	20%	18%	15%	8%	NDHS
3	Prevalence of overweight in children under five decreases	% of children under five who are overweight	2%	2%	2%	2%	1%	1%	NDHS,
4	Prevalence of wasting in children under five decreases	% of children under five who are wasted (< -2 SD)	7%	7%	7%	6%	5%	4%	NDHS,
5	Prevalence of anaemia among women of reproductive age decreases	% of women of reproductive age with anaemia	58%	58%	45%	40%	35%	35%	NDHS,
6	Women and caregivers practicing EBF for first six months of child's life	% of children exclusively breastfed for first six months	29%	29%	35%	45%	55%	65%	NDHS,

Table 18: Monitoring and Evaluation Framework

S/no	Priority Area s	Expected Outcomes	Indicators	Timeframe	Source of Data
1	Maternal, Infant and Young Child Nutrition	Women and caregivers practicing EBF for the first six months of a child's life. Prevalence of stunting in children under five decreases	% of children exclusively breastfed for first six months % of children under five who are stunted (< - 2 SD)	2021-2025	NDHS
2	Integrated Management of Acute Malnutrition in Children under 5 years	Prevalence of wasting in children under five decreases	% of children under five who are wasted (< -2 SD)	2021-2025	NDHS
3	Micronutrient Deficiencies Control	Prevalence of anaemia among women of reproductive age decreases	% of women of reproductive age with anaemia	2021-2025	NDHS
4	School Age, Adolescents and Elderly Nutrition	Prevalence of overweight in children under five decreases	% of children under five who are overweight	2021-2025	NDHS
5	Nutrition in Emergency	Prevalence of wasting in children under five decreases	% of children under five who are wasted (< -2 SD)	2021-2025	NDHS
6	Diet Related Non-Communicable Diseases	Prevalence of overweight in children under five decreases	% of children under five who are overweight	2021-2025	NDHS
7	Nutrition Information System	Prevalence of overweight in children under five decreases	% of children under five who are overweight	2021-2025	NDHS
8	Nutrition Commodities Logistics Management System	Decrease in No of health facilities that had stockouts of essential Nutrition Commodities. 2. Increase No of health facilities with functional Nutrition equipment	% of health facilities that had stock-outs of essential Nutrition Commodities for mothers and children in the past two months % of health facilities with functional weighing scale, MUAC tape, Length board,	2021-2025	Nigerian Health Logistics Management Information System (NHLMIS) Quarterly Supportive Supervision (QSS)

		(weighing scale, MUAC tape, Length board, etc.) 3. Provide end-to-end visibility into stock and increase reporting rate.	etc. in the last three months. % of health facilities that reported stock level of preceding month.		

Learning

The learning process of the NSPAN II will follow an adaptive management cycle approach, which involves improving outcomes through learning. Learning will involve assessing and documenting what works well or does not work well in a particular context, which aspects have more influence on the achievement of results and which strategies can be replicated. The platforms to achieve this will among others include the bi-annual, annual, mid-term, and end of point implementation review meetings of implementing entities and all nutrition stakeholders.

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8.0 Roles & Responsibilities

8.0 Introduction

Nutrition is a multi-disciplinary issue best addressed through well-coordinated, multi-sectorial collaborative approaches. The lack of an institutionalized coordination mechanism for nutrition in Nigeria has been one of the main contributors to the limited effectiveness of past interventions. Inadequate coordination of the planning and implementation of nutrition programmes and projects often resulted in undue duplication of services and programmes without equitable distribution and efficient resource utilization. Nutrition interventions have been implemented mostly as vertical projects with little investment in human capacity and technical skills development in the public and private sectors.

The implementation of this strategy requires the participation and involvement of stakeholders at all levels from the community through the States to the Federal level, including the public sector (sectoral Ministries and institutions, regional Secretariats and LGAs), research institutes, professional bodies, private sector (health and non-health), development partners, media, and the community. All concerned parties share responsibility for the successful implementation of the strategy and should acknowledge and embrace its responsibilities. The roles and responsibilities of all stakeholders are identified below to ensure that their collective action contributes to the full attainment of the strategy's goals and objectives. The Government of Nigeria has committed itself to the SUN movement in the country. To enhance fulfillment of this commitment, the Government will work with partners to strengthen existing Health Sector partnership for nutrition to intensify action to prevent malnutrition and reduce nutrition related diseases, thus contributing to achievement of the global targets and the SDGs.

8.2 Public Sector

8.2.1 National Planning Commission (NPC)

The sectoral Ministries and institutions represented within the NPC are responsible for ensuring that nutrition is adequately reflected in sector policies, strategic plans, legislation, regulations, and guidelines that lie within their mandate and jurisdiction. They are also responsible for identifying and allocating human, financial, and organizational resources for implementation of the strategy, donor coordination, and quality assurance for nutrition at all levels.

The principal functions of the NPC will include the following:

- Support FMOH to advocate for adequate financial provisions in the Medium-Term Expenditure
- Framework, and national annual budget for implementation of the Health Sector component of the National Food and Nutrition Policy (NFNP) and programmes
- Actively support FMOH in coordination of Health Sector nutrition related activities
- Facilitate dissemination of nutrition data
- Support sustained advocacy for nutrition issues

8.2.2 Federal Ministry of Health (FMOH)

Coordination

The FMOH shall strengthen existing Health Sector nutrition coordination mechanisms such as the Technical Working Group (Advisory Committee). The Nutrition Division of the Department of Family Health, FMOH shall be the Secretariat. The Committee shall comprise representatives of relevant departments of FMOH, its agencies, professional organizations, academia, development partners, and other stakeholders. It shall be responsible for ensuring the implementation of this plan, submission of periodic reports on national nutrition status, and advice to the Honourable Minister of Health on nutrition matters.

Capacity Building

The FMOH shall establish guidelines for planning, organizing, conducting, and supervising training of all nutrition personnel at all levels. It will provide appropriate technical support for curriculum development, training, and continuing education. These will focus on both pre-service and in-service training including those that support the creation of friendly and enabling environments for client-focused service delivery such as interpersonal communication and counselling.

Services

- In collaboration with FMFB&NP and NBS conduct a situation analysis of the country's nutrition profile on a regular basis
- Define standards with respect to the delivery of holistic nutrition services
- Issue guidelines to assist the State and LGA Councils with planning, implementing, monitoring and evaluating nutrition programmes
- Develop and facilitate the integration of nutrition into existing initiatives and promote
- implementation of appropriate strategies such as those on education and promote positive nutrition action and healthy lifestyle
- Provision of adequate budgetary allocation for the implementation of all nutrition interventions

Research

Initiate and support basic and implementation research activities relevant to nutrition in collaboration with training and research institutions, NGOs, and professional associations

Communication and Advocacy

- Conduct high level advocacy to mobilize support and commitment for implementation of this plan
- Develop and support the adaptation and domestication of communication and advocacy strategies by States
- Disseminate information to States, LGAs, and other stakeholders
- Develop BCC materials and job aids for effective coverage of nutrition programmes in collaboration with Federal Ministry of Information, NGOs, and other stakeholders

M&E

- Define core nutrition indicators for inclusion in national statistic documents

- In collaboration with other stakeholders, strengthen and sustain the nutrition information and surveillance system to provide adequate information on progress made in reducing nutrition related morbidity and mortality
- Supervise M&E of nutrition programmes nationwide
- Provide efficient feedback mechanisms of information and data to States and LGAs

8.2.3 National Primary Health Care Development Agency (NPHCDA)

- Provide support for implementation of all plans developed to achieve set targets of this plan at the primary health care level
- Conduct advocacy and social mobilization of State and LGA policy makers to solicit their support for the implementation of strategies within this plan
- Build State and LGA level capacity for training community-level care providers on the
- implementation of relevant aspects of the NSPAN
- Provide technical support to States and LGAs for effective implementation of programmes and activities aimed at improving the nutrition status of Nigerians
- Supervise, monitor, and evaluate PHC activities relating to this plan

8.2.4 State Planning Commission/Budget and Economic Planning

- ✓ Support sustained advocacy for nutrition issues
- ✓ Support SMOH to advocate for adequate financial provisions in the State Rolling Plan, and State annual budget for implementation of the Health Sector State Food and Nutrition Policy and programmes
- ✓ Actively support SMOH in coordination of Health Sector nutrition related activities
- ✓ Facilitate dissemination of nutrition data.

8.2.5 State Ministries of Health (SMOH)

Coordination

- ✓ Coordinate all Health Sector nutrition activities in the State
- ✓ Liaise with the State Committee on Food and Nutrition to ensure optimal implementation of the policy at State and LGA levels
- ✓ Constitute a State Technical Committee on Nutrition at the SMOH to coordinate Health Sector
- ✓ Lead implementation of nutrition interventions within the State
- ✓ Support the National Committee on Food and Nutrition to effectively carry out its mandate
- ✓ Report the Health Sector nutrition activities to the State Committee on Food and Nutrition

Services

- o Adopt and ensure effective implementation of the NSPAN with the involvement of professional organizations
- o Advocate for recruitment of appropriately qualified and adequately skilled nutrition personnel in all health facilities in the State
- o Initiate and maintain a multi-sectoral and multi-disciplinary approach to nutrition, involving relevant line Ministries and organizations such as Ministries of Agriculture, Water Resources, Education, Information, Women Affairs, Justice, Environment, Finance and Budget Office, professional associations, NGOs, faith-based organizations (FBOs), relevant Tertiary institutions, and development partners

- Collaborate with LGAs and communities to identify priority programmes related to nutrition
- Establish and strengthen existing community-based outreach nutrition services

Training

- ✓ Build capacity of nutrition personnel through updating of knowledge and skills on a continuous basis to perform relevant functions
- ✓ Ensure that healthcare providers are trained in methods, skills, and processes that help mobilize communities around positive nutrition practices, promote community ownership, and sustainability

M&E

- ✓ Facilitate data collection, processing, and dissemination of information on health and nutrition interventions
- ✓ Ensure the timely transmission of the data to the national database

BCC

In collaboration with LGAs:

- ✓ Promote systematic and sustained community health education through health personnel, mass media, print, NGOs, community-based organizations (CBOs), community leaders, families, and individuals
- ✓ Facilitate the training of health providers of both public and private institutions in interpersonal communication and counselling

Media

- ✓ Create a sustained platform for public debate in support of the promotion and implementation of the NSPAN
- ✓ Create and maintain awareness on issues concerning nutrition
- ✓ Include nutrition issues in their publications and programmes and community engagement
- ✓ Interventions
- ✓ Provide focused and strategic media coverage of nutrition interventions

8.2.6 LGA Councils Services

- ✓ Collaborate with the SMOH to identify and implement priority programmes related to nutrition and ensure effective implementation
- ✓ Establish and strengthen existing community-based outreach nutrition services
- ✓ Collaborate with Ward and Village Health Committees to support nutrition services

Mobilization

- ✓ Mobilize the community to participate in planning, implementation, and monitoring of nutrition programmes through involvement of traditional chiefs, religious leaders, other influential persons and groups
- ✓ Motivate communities through community action cycle processes to undertake, own, and sustain nutrition programmes
- ✓ Advocacy and social mobilization
- ✓ Create awareness on nutrition activities in the LGA

- ✓ Create a platform for advocacy on nutrition activities to policy makers and relevant stakeholders (FBOs, NGOs, CBOs, etc.)
- ✓ Serve as a link with the media to propagate issues concerning nutrition
- ✓ Develop, distribute, and disseminate information, education, and communication (IEC) materials
- ✓ Create platform for community dialogue, focused group discussion to promote nutrition issues

Training

- ✓ Organize regular trainings and refresher courses to update knowledge and skills of LGA nutrition/health personnel on issues identified in the NSPAN

8.2.7 Ward and Village Health Committees

- ✓ Determine how best to provide the essential elements of nutrition programmes
- ✓ Assign roles and responsibilities in the communities for health and nutrition services and in other sectors to involve individuals and families in the implementation of nutrition priority programmes
- ✓ Periodically provide health and nutrition information to the community to promote ownership and improve the nutrition status of the community
- ✓ Mobilize resources to support nutrition programmes, involving co-opting voluntary workers and practitioners of traditional methods to achieve nutrition goals
- ✓ Ascertain the availability and maintenance of basic health infrastructure
- ✓ Collate relevant data about resources available for nutrition

8.2.8 Finance

- ✓ Ministry of Finance/Budget at all levels to ensure prompt release of funds for the implementation of nutrition programmes, support research, and maintain LGA healthcare facilities
- ✓ Explore appropriate and efficient mechanisms for mobilizing and allocating resources for nutrition programmes
- ✓ Provide accountable and transparent mechanism for routine reporting of related expenditure

8.2.9 National Agency for Food and Drug Administration and Control (NAFDAC)

- ✓ Monitor compliance of the set fortification standards at distribution and retail level
- ✓ Monitor and enforce compliance with provision of the Code of Marketing of Breast Milk
  Substitutes
- ✓ Regulate production, distribution, and marketing of processed foods and related products
- ✓ Monitor compliance to nutrition information on labels

8.2.10 Standards Organization of Nigeria (SON)

· Establish standards of food fortification

· Regularly review standards based on research and clinical findings
· Monitor compliance at industry level

8.3 Partners

8.3. 1 Non-Governmental Organizations (NGOs)

NGOs shall in collaboration with the Federal, State and LGAs:

- ✓ Identify nutrition needs of communities through studies and research
- ✓ Initiate pilot schemes that have the potential to be further scaled up such as establishing cottage industries for complementary food
- ✓ Support the training of community resource persons and other voluntary village health workers in the delivery of nutrition services
- ✓ Assist in M&E of nutrition programmes
- ✓ Mobilize the community to embark on awareness campaigns to eradicate harmful traditional nutritional practices
- ✓ Support Government and community to establish community-based nutrition centres which will be affordable, accessible, acceptable, and sustainable
- ✓ Document success stories and lessons learned on community engagement in nutrition

8.3.2 Professional Associations

- ✓ Advocacy to all levels of Government and private sector
- ✓ Dissemination of documents on nutrition education
- ✓ Participation, research, training, and conduct of nutrition surveys
- ✓ Awareness creation through seminars, conferences, and public lectures

8.3.3 Educational Institutions

Provision of professionally competent and versatile practitioners who can provide high quality nutrition and healthcare to children and expectant mothers in homes, communities, clinics, health centers, and hospitals nationwide

8.3.4 Research Institutions

Research institutes shall be responsible for conducting relevant research on:
Food-based nutrition interventions for the management of identified health conditions such as SAM, micronutrient deficiencies, HIV/AIDS, etc.

- ✓ Developing local process capacity for the production of nutritious food products for infants and PLWs
- ✓ Partner with the SON to conduct operational research on current/ongoing food fortification programmes
- ✓ Generate nutrition data on composition of Nigerian local foods

8.3.5 Development Partners Group

Support NSPAN from planning to implementation and monitoring, collaborating with government at all levels in line with the Paris-Accra Principles of Aid Effectiveness

8.4 Private Sector

Support policy implementation through the development of low cost, nutritious complementary foods, fortification of staple foods, awareness creation, fund mobilization, and research.

- ✓ Developing local variants of the Ready to Utilize therapeutic foods (RUTF
- ✓ Developing local process capacity for the production of nutritious food products for infants and Young Children.
- ✓ Comply with Government approved regulations on food fortification
- ✓ Comply with the provision of the Code of Marketing of Breast Milk Substitutes
- ✓ Awareness creation through seminars and public lectures on healthy food
- ✓ Intensify its support for exclusive breastfeeding

9.0 Costing and Financing

NSPAN II cost estimates and resources available for its implementation are essential to ensuring realistic levels of ambition and ascertaining the level of effort required to achieve the set objectives and targets. A modelling of the resource requirements for the set targets will support the design of appropriate measures and resource mobilization strategies to finance the emerging resource gaps. This section outlines the cost estimates for NSPAN II (2021-2025) and the methodology used.

9.1 NSPAN II Costing Methodology

There are two broad categories of the cost; intervention cost – service delivery component and programme management activities. Cost for delivering services to achieve the planned coverage and impact targets were estimated using OneHealth Tool (OHT) version 6.08. OHT is a strategic planning and costing tool supported by the UN Interagency Group on Costing. It links health interventions with holistic planning for health systems (e.g., human resources, infrastructure, logistics). The programme management activity cost presented in this plan is the Federal component only, while States will be required to domesticate this component. This cost is based on ingredient costing approach[1]. NSPAN II costing adopted 2020 as the base year and set the duration of the strategic plan to 2021-2025.

9.2 Overview of Costing Assumptions and Data sources

The following are the assumptions, data inputs and sources used.

- The interventions modelled are primarily sourced from priority interventions identified in the National Policy on Food and Nutrition (NPFN) hybridized with Nutrition-specific interventions in the National Strategic Health Development Plan II (NSHDP II 2018-2022). Treatment guideline of WHO
- Aggregate population estimates are sourced from National Population Commission (NPopC) projection (2007 – 2022).
- Service baseline coverages were mainly sourced from NDHS 2018 and NNHS 2018.
- The currency exchange rate was set at ₦410 to 1 US$.
- Two (2) scenarios were modelled;
    - Moderate – Interventions featured in NPFN were scaled up to their targets by 2025 and additional interventions included in NSPAN II were moderately scaled up towards NSHDP II nutrition-specific targets. A year-on-year exponential interpolation profile was used for the scale up given the possibility of a gentle scale up at the first year of the implementation.
    - Ambitious scenario – All high impact interventions were scaled up to reach same targets as that of NPFN interventions and the aggressive scenario of NSHDP II. The interpolation profile used is a year-on-year linear scale up.

- As at the time of finalizing this costing, paucity of data hindered financing gap analysis.

[1] Elements required for each activity were costed and aggregated by thematic areas.

- Unit costs of each commodity was obtained from global price lists. Treatment guideline from WHO 2019 Essential Nutrition Actions was used to estimate staff time required and dosage of drugs and supplies.
- Intervention cost modelled includes commodities, logistics and human resource cost[2].

9.3 Cost estimates

a. Intervention (health service) cost

The estimated national resource requirement for the implementation of the intervention (service delivery) component of the plan is NGN 211.5 billion (USD 515.9 million) and NGN 289.6 billion (USD 706.4 million) for moderate and ambitious scenarios respectively (See Table 19).

Table 19: The intervention cost estimates for the three policy scenarios

Scenarios	*2021*	*2022*	*2023*	*2024*	*2025*	*Total (NGN'billion)*	*Total (USD'million)*
Moderate	27.2	32.4	39.5	49.3	63.1	**211.5**	**515.9**
Ambitious	34.2	45.6	57.5	69.9	82.5	**289.6**	**706.4**

b. Programme Management Cost

The Federal component of the programme management cost is estimated at NGN 4.95 billion (USD 12.1 million). Table 20 shows distribution of this cost by priority areas.

Table 20: The programme management cost estimates distributed by priority area (NGN'million)

Priority Areas	*2021*	*2022*	*2023*	*2024*	*2025*	*Total*	*Share*
Coordination and Governance	53.9	57.7	74.9	57.7	71.9	**316.1**	6.4%
Maternal, Infant and Young Child Nutrition	319.0	109.1	151.7	84.6	99.7	**764.1**	15.4%
Integrated Management of Acute Malnutrition in Children under 5 years' old	87.9	215.6	106.3	139.4	104.5	**653.7**	13.2%
Micronutrient Deficiency Control	110.4	167.8	126.3	126.7	142.2	**673.4**	13.6%
School Age, Adolescent and the Elderly Nutrition	51.9	61.6	47.0	51.1	13.9	**225.6**	4.6%
Diet- Nutrition Related Non-Communicable Diseases	106.6	167.5	104.3	58.8	103.3	**540.5**	10.9%
Nutrition Information System	135.4	153.4	135.4	114.1	135.4	**673.8**	13.6%

[2] This was estimated using the staff time required per case for each service in the treatment protocol. Infrastructure cost was not modelled because no sufficient data to estimate nutrition-specific infrastructure cost. NSPAN II interventions will therefore leverage on existing health system's infrastructure.

Nutrition in Emergency	46.2	18.2	18.2	18.2	18.2	**119.2**	2.4%
Nutrition Commodities Logistics Management System	206.3	191.5	201.4	196.2	191.5	**987.0**	19.9%
Total	**1,117.8**	**1,142.5**	**965.7**	**846.7**	**880.7**	**4,953.4**	**100.0%**

The programme management cost estimates distributed by cross-cutting strategies is as presented in Table 21.

Table 21: The programme management cost estimates distributed by cross-cutting strategies (NGN'million)

Priority Areas	***2021***	***2022***	***2023***	***2024***	***2025***	***Total***	***Share***
Social Behaviour Change Communication	164.9	141.7	139.1	104.0	120.5	**670.7**	13.5%
Capacity Building	211.7	188.8	151.0	117.3	101.5	**771.1**	15.6%
Advocacy and Resource Mobilization	45.9	18.0	20.1	9.2	12.9	**106.7**	2.2%
Monitoring, Evaluation, Knowledge Management, Learning and Research	577.5	664.3	502.0	499.3	511.2	**2,752.4**	55.6%
Coordination and Multi-Sectoral Partnerships	117.7	129.7	153.6	117.0	134.5	**652.4**	13.2%
Total	**1,117.8**	**1,142.5**	**965.7**	**846.7**	**880.7**	**4,953.4**	100.0%

The programme management cost estimates distributed by cost categories is as presented in Table 22 below.

Table 22: The programme management cost estimates distributed by cost categories (NGN'million)

Priority Areas	***2021***	***2022***	***2023***	***2024***	***2025***	***Total***	***Share***
Training	269.8	253.8	215.4	190.1	166.6	**1,095.6**	22.1%
Supervision	198.2	183.3	209.1	193.8	210.9	**995.4**	20.1%
Monitoring and Evaluation	64.9	62.6	94.3	66.2	88.4	**376.5**	7.6%
Communication, Media & Outreach	192.7	184.4	189.6	173.3	182.1	**922.2**	18.6%
Advocacy	48.8	21.4	20.9	8.3	12.0	**111.5**	2.2%

General Programme Management	343.4	437.0	236.4	215.0	220.6	**1,452.3**	29.3%
Total	**1,117.8**	**1,142.5**	**965.7**	**846.7**	**880.7**	**4,953.4**	100.0%

9.4 Expected impact of the scale up scenarios

a. Moderate Scenarios

This scenario will avert over 1.3 million stunting cases in children 0-59 months. Other benefits include:

- 1.7 million cases of anemia prevented among pregnant women and 1.3 million prevented among women of reproductive age;
- 24.1 million women of reproductive age receive Intermittent iron-folic acid supplementation;
- 25.9 million children receive zinc supplements as part of diarrhea management;
- 22.1 million children 6-59months receive Vitamin A supplementation;
- 47 million children 2-12 years receive Intermittent iron supplementation;
- 4.6 million children treated for severe and moderate acute malnutrition.

The number of stunting cases averted for the moderate scenario (Total [0-59 months]) is shown in Table 23 below

Table 23: Number of stunting cases averted (Total [0-59 months])

	2021	*2022*	*2023*	*2024*	*2025*	*Total*
Total (0-59 months)	124,835	141,872	230,825	355,059	495,089	**1,347,680**
<1 month	1,265	279	548	990	1,730	**4,812**
1-5 months	10,619	1,800	3,298	5,517	8,923	**30,157**
6-11 months	18,343	4,880	8,154	12,346	17,961	**61,684**
12-23 months	23,697	51,631	49,830	74,178	103,320	**302,656**
24-59 months	70,911	83,282	168,995	262,029	363,156	**948,373**

b. Ambitious Scenarios

This scenario will avert over 2.3 million stunting cases in children 0-59 months. Other benefits include:

- 4 million cases of anemia prevented among pregnant women and 3.7 million prevented among women of reproductive age;
- 50.2 million women of reproductive age receive Intermittent iron-folic acid supplementation;
- 31.2 million children receive zinc supplements as part of diarrhea management;
- 53.4 million children 2-12 years receive Intermittent iron supplementation;
- 8.5 million children treated for severe and moderate acute malnutrition.

The number of stunting cases averted for the ambitious scenario (Total [0-59 months]) is presented in Table 23.

Table 24: Number of stunting cases averted (Total (0-59 months))

	2021	*2022*	*2023*	*2024*	*2025*	*Total*
Total (0-59 months)	170,381	249,664	411,341	615,975	823,061	**2,270,422**
<1 month	1,601	919	1,407	1,917	2,451	**8,295**
1-5 months	11,926	4,289	6,563	8,937	11,424	**43,139**
6-11 months	23,169	14,592	22,304	30,336	38,733	**129,134**
12-23 months	40,266	90,294	109,045	151,251	195,023	**585,879**
24-59 months	93,419	139,570	272,023	423,535	575,430	**1,503,977**

9.5 Adopted scenario

Given the relatively humongous resources and the health system strength required to implement the ambitious scenario, stakeholders considered the **moderate scenario** desirable and adopted.

10.0 Health Sector Nutrition Coordination Structure in Nigeria

Introduction

Adequate Nutrition is an essential requirement for optimal growth, development and productivity in every individual. Optimal nutrition at each stage of the lifecycle is therefore a fundamental human right with malnutrition being viewed as a denial of that right. The goal of the National Strategic Plan of Action for Nutrition (NSPAN2) is to attain optimal nutrition for all Nigerians along the life cycle through prevention, management and control of malnutrition, prioritizing the vulnerable groups; under-5 children, school- age children, adolescents, women of reproductive age, elderly and people with special nutrition needs/emergencies by 2025.

The NSPAN provides strategic direction to guide stakeholders at all levels in the public and private sector on implementing key interventions for optimal nutrition for all Nigerians leaving no one behind.

The Federal Ministry of Health is tasked with the mandate to provide strategic leadership and effectively coordinate the implementation of the NSPAN and other Nutrition policy key actions for good nutrition outcomes in Nigeria.

The Nutrition Division drives coordination of the National Nutrition Programme through the National Nutrition Technical Working Group (NNTWG), which is a multistakeholder and multisectoral platform. The NNTWG is composed of line Government Ministries, (Ministries of Health, Education, Agriculture, Women Affairs, Finance/Planning, Information, Science and Technology and Water Resources); Departments and Agencies (NPHCDA, NAFDAC); Representatives of tertiary health facilities; Private sector; Development /Implementing Partners and Donors etc. (See coordination structure in figure 13 below).

The NNTWG meets quarterly and the objectives are as follows:

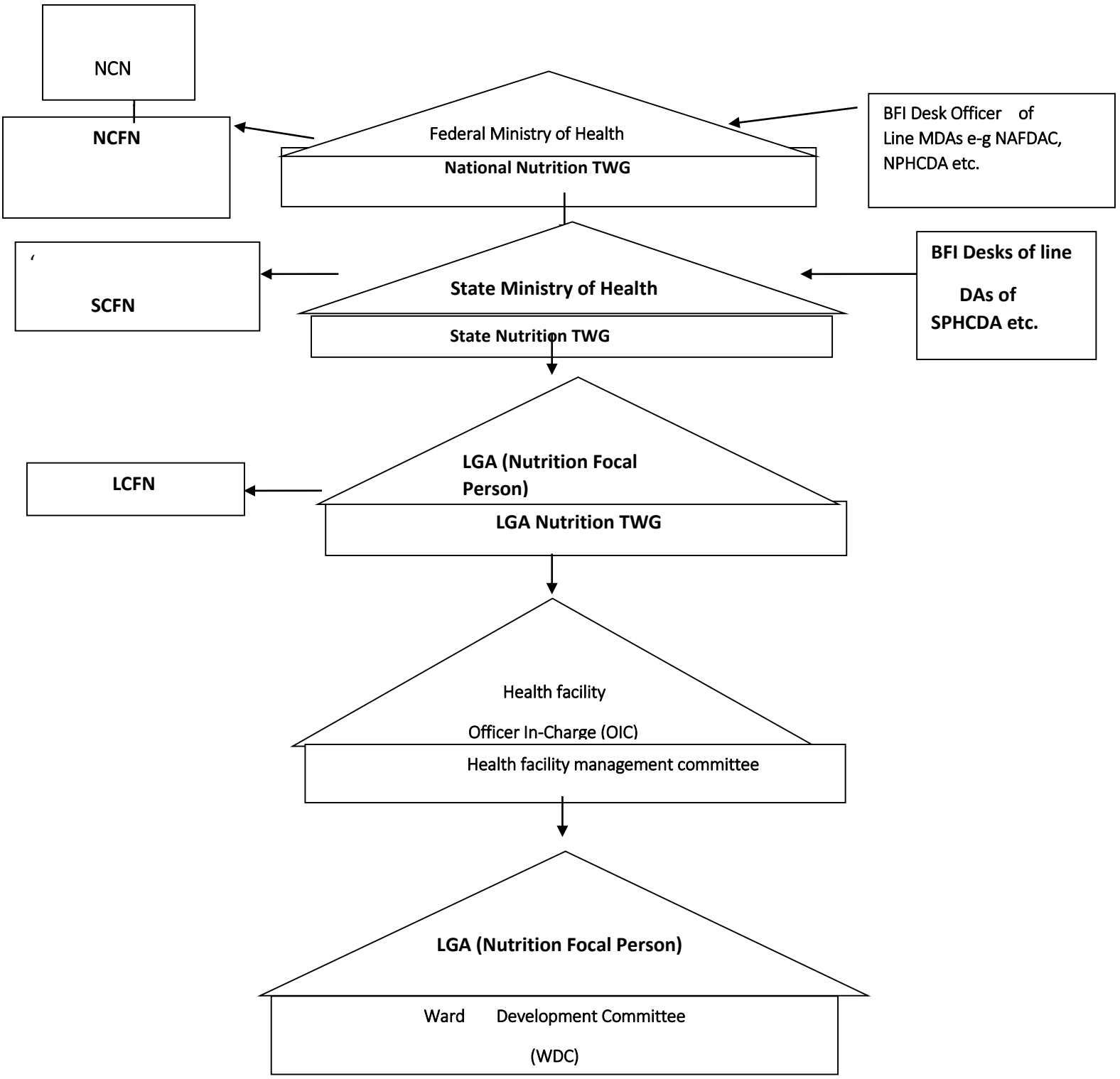
- To promote and strengthen coordination of National Nutrition Program.
- To promote partnership and collaboration among stakeholders
- To promote experience sharing and knowledge management for learning on best practices for nutrition.
- To track progress and performance on implementation of the National Nutrition Program.

There is need to strengthen the coordination structure to build synergy and ensure adequate bilateral connectivity primarily with the State Ministry of Health, Nutrition Division headed by the state Nutrition Officer.

The State Ministry of Health (SMOH) coordinates and supervises all Health Sector nutrition interventions at the State level and secondarily with the State Primary Health Care Development Agency (SPHCDA) including nutrition interventions at the primary, secondary and tertiary health facilities. Whereas Nutrition programmes at the secondary and tertiary health facilities are directly under the purview of the State Nutrition Officer, the Nutrition programme at the primary care level is directly under SPHCDA.

The Head of the Nutrition Division in the State Ministry of Health (SM0H) drives the coordination platform for nutrition in the health sector through the Nutrition TWG for robust and effective Nutrition programme implementation in the state. A similar coordination platform also exists at the LGA level.

Figure -13- Health Sector Nutrition Coordination Structure in Nigeria



11.0 APPENDICES

Appendix 1.

Quality of Care in Nutrition for Newborn, Infant, Young Child, Maternal and the Elderly

S/no	Life – Course	Nutrition Practice	Recommended Quality of Care	Rationale and evidence	Source
1	Newborn	*Early Initiation within 1hr of birth*	The standard quality of care for initiating early breastfeeding is to place babies in skin-to-skin contact with their mothers within an hour and encourage mothers to recognize when their babies are ready to breastfeed, offering help if needed.	Evidence for the importance of early initiation has been well documented, in the context of early skin-to-skin contact. The review found a positive effect on both the likelihood of exclusive breastfeeding (EBF) for one to six months of life, and the overall duration of breastfeeding, when mothers put the infant to the breast soon after birth. A Cochrane review on community-based integrated packages to improve maternal and neonatal health found that community-based programming had a positive impact on the initiation of breastfeeding within one hour of birth (Lassi Z S, *et al*, 2010).	WHO
2		*Exclusive breastfeeding of Infants from 0-6 mo*	The standard quality of care to engage mothers to practice is to encourage and sustain mothers to practice exclusive breastfeeding is that all infants should be exclusively	One of the most effective and rewarding preventable interventions is breastfeeding, which together with	WHO

			breastfed for the first six months of life to achieve optimal growth, development and health. (WHO, 2001). WHO's recommendation, after systemic reviews was carried out in 2001, affirmed the practice of "exclusive breastfeeding for six months, with introduction of complementary foods and continued breastfeeding thereafter'' (WHO, 2013)	appropriate complementary feeding has the potential to reduce mortality among children under five by 19% (Jones G et.al. 2004). Six months of EBF is recommended for improved infant, child, and maternal health. The evidence stems from a systematic review in 2001 which found evidence of decreased gastrointestinal illnesses in infants who were exclusively breastfed for six months (compared to those who were mixed breastfed – receiving breast milk and other milk – at three to four months), and mothers who exclusively breastfed for six months' experience prolonged lactational amenorrhea (Kramer MS, Kakuma R, 2001).	
3		*Counselling and support for appropriate feeding of low-birth-weight infants*	The standard quality of caring for LBW infants who are able to breastfeed should be put to the breast as soon as possible after birth when they are clinically stable, and should be exclusively breastfed until six months of age.	Important benefits were found for mortality (18% reduction), severe infections or necrotizing enterocolitis (NEC) (60% reduction), and mental development scores (5.2 points higher) associated with feeding mother's own milk compared with formula. The only apparent harm was lower length at nine months in one study. Feeding donor human milk to LBW infants is associated with lower incidence of infections and NEC during the initial hospital stay after birth. There was no	WHO

				significant effect on mortality, mental development scores and anthropometric status at 18 months of age.	
4		*Infant feeding in the context of human immunodeficiency virus (HIV)*	The standard quality of caring for Infant feeding in the context of human immunodeficiency virus (HIV) are listed below: 1. Mothers known to be HIV-infected should be provided with lifelong antiretroviral (ARV) therapy or ARV prophylaxis interventions to reduce HIV transmission through breastfeeding. 2. Mothers known to be HIV infected (and whose infants are HIV uninfected or of unknown HIV status) should exclusively breastfeed their infants for the first 6 months of life, introducing appropriate complementary foods thereafter, and continue breastfeeding for the first 12 months of life. Breastfeeding should then only stop once a nutritionally adequate and safe diet without breast milk can be provided. 3. Mothers known to be HIV infected who decide to stop breastfeeding at any time should stop gradually within one month. Mothers or infants who have been receiving ARV prophylaxis should continue prophylaxis for one week after breastfeeding is fully stopped. Stopping breastfeeding abruptly is not advisable. 4. When mothers known to be HIV infected decide to stop breastfeeding at any time, infants should be provided	The evidence that ARV interventions to either the HIV-infected mother or the HIV-exposed infant significantly reduce the risk of postnatal transmission of HIV through breastfeeding, has had major implications for how women living with HIV should feed their infants and how health workers should counsel and support them.	WHO

			with safe and adequate replacement feeds to enable normal growth and development. 5. Mothers known to be HIV infected should only give commercial infant formula milk as a replacement feed to their HIV-uninfected infants or infants who are of unknown HIV status when specific conditions are met. 6. Mothers known to be HIV infected may consider expressing and heat-treating breast milk as an interim feeding strategy. 7. If infants and young children are known to be HIV infected, mothers are strongly encouraged to exclusively breastfeed for the first six months of life and continue breastfeeding as per the recommendations for the general population, that is, up to two years or beyond. (WHO et al. 2012).		
5	Care for Infants and Young Children (6–23 months of age)	*Continued breastfeeding*	The standard quality of care on continued breastfeeding for infants and young children from 6-23 months is that infants should be exclusively breastfed for the first six months of life to achieve optimal growth, development and health (WHO 2001), thereafter, to meet their evolving nutritional requirements, infants should receive nutritionally adequate and safe complementary foods while breastfeeding continues for up to two years of age or beyond. (PAHO, WHO. 2003.)	Guidelines for continued breastfeeding stem from the Pan American Health Organization (PAHO)/WHO) on complementary feeding of the breastfed child which recommend "continued frequent, on-demand breastfeeding until two years of age or beyond" (WHO, 2013,) Breast milk is a key source of energy and essential fatty acids and provides substantial amounts of certain	WHO

				micronutrients. Breastfed children at 12–23 months of age receive on average 35% to 40% of total energy needs from breast milk (Dewey KG 2003,) with the remaining 60% to 65% covered by complementary foods. The nutritional impact of breastfeeding is most evident during periods of illness, when the child's appetite for other foods decreases but breast-milk intake is maintained. Continued, frequent breastfeeding also protects child health by delaying maternal fertility postpartum and reducing the child's risk of morbidity and mortality in disadvantaged populations (WHO Collaborative Study Team 2000). Breastfeeding in the first 6 months of life provides greater protection against diarrhoea than against acute respiratory illness (OR=6.1 vs. OR=2.4), but breastfeeding between 6–11 months shows "similar levels of protection" against both acute respiratory illness and diarrhoea (OR=1.9 vs. OR=2.5) (3 studies) (WHO Collaborative Study Team 2000)	
6		*Complementary feeding plus breastmilk at 6mo*	The standard quality of care for complementary feeding of Infants is that after the practice of breastfeeding	The major complementary foods in Nigeria are primarily plant-based gruels	WHO

			infants exclusively for the first six months of life, at 6 months of age they should receive nutritionally adequate and safe complementary foods while breastfeeding continues for up to two years of age or beyond (PAHO, WHO, 2003).	especially in lower-income settings. A lack of animal-source foods in these settings results in insufficient amounts of key micronutrients such as vitamin A, zinc, and iron, to meet the recommended intakes for children less than 24 months of age. Infants and young children are also most susceptible to the harmful consequences of these deficiencies. The MNPs were developed as an alternative to supplementation and have shown to be successful in reducing anaemia and iron deficiency in young children in a variety of contexts as they can be added directly to food (Hartman-Craven B., 2009). MNPs are frequently packaged in small sachets which are temperature and moisture resistant, giving them a long shelf-life and easing transportation and storage problems The fortification of foods using MNPs can be done at home or any other locations where meals are prepared and consumed, such as schools or hospitals. This method of fortification is thus referred to as point-of-use (Save the Children UK., 2005). A Cochrane	
		Use of multiple micronutrient powders (MNPs) for home fortification of foods of infants and young children, 6–23 mo			

				systematic review assessed the effects and safety of home fortification of foods with MNPs for children under two years of age to improve health outcomes. The review found that home fortification with MNPs reduced anaemia by 32% and iron deficiency by 50% in infants and young children.	
7	Care for Infants and Young Children under five years	*On Vitamin A supplementation for children under five years of age*	The standard quality of care practice in settings where vitamin A deficiency is a public health problem, is to recommend vitamin A supplementation in infants and children 6–59 months of age as a public health intervention to reduce child morbidity and mortality. Thus, children 6-11 months would be offered 100,000 IU (30 mg RE) while 12 -59 months are offered 200,000 IU (60 mg RE) Vitamin A, at six months' interval (twice in a year). Consensus among manufacturers to use consistent colour coding for the different doses in soft gelatin capsules, namely red for the 200 000 IU capsules and blue for the 100 000 IU capsules, has led to much improved training and operational efficiencies in the field. .	Rationale and evidence Studies suggest that providing vitamin A supplements to children 6–59 months of age from developing countries is associated with a reduced risk of mortality and diarrhoea incidence. (WHO, 2013) Vitamin A supplements may improve gut integrity and therefore decrease the severity of some cases of diarrhoea (78). The role of vitamin A in immunity may also affect the susceptibility and/or severity of other infections (Stephensen CB. 2001; Ross AC.2007). Nigeria has integrated vitamin A supplementation for infants and children into its national health policies and routine health services. For example, through the biannual Maternal Newborn and Child Health (MNCH) Week, Vitamin A supplementation is combined with other child survival	WHO

				interventions such as iron deworming, iron folate supplementation etc. Twice in a year, and at six monthly intervals, infants aged 6–11 months of age receive doses of 100 000 IU and young children aged 12–59 months of age receive 200 000 IU. Two Cochrane reviews evaluated the most recent evidence on vitamin A supplementation in children (WHO, 2013). Micronutrient supplementation in children and adults with HIV infection. Cochrane Database of Systematic Reviews, 2010,). The first review showed that supplementation with vitamin A can reduce mortality and the prevalence rates of communicable diseases such as diarrhoea. The meta-analysis included 17 clinical trials and indicated that vitamin A supplementation reduces the risk of all-cause mortality by 24%. Another review showed that vitamin A supplementation of HIV-infected children over six months of age is beneficial in reducing overall mortality risk.	
8		*Vitamin A supplementation in children with measles*	The standard quality of care practice is that all children diagnosed with measles should receive one dose of a vitamin A supplement. Children from areas of known	Vitamin A Deficiency contributes to delayed recovery and to the high rate of post-measles complications. In	WHO

			vitamin A deficiency or where measles case fatality is likely to be more than 1% should receive 2 doses of vitamin A supplements, given 24 hours apart, to help prevent eye damage and blindness. Vitamin A supplements have been shown to reduce the number of deaths from measles by 50%. The recommended age-specific doses are: 100 000 IU for infants aged 6 to 11 months' n 200 000 IU for children ≥ 12 months. If the child has clinical signs of vitamin A deficiency (such as Bitot's spots), a third dose should be given 4–6 weeks later (WHO, UNICEF, IVACG. 1997). The beneficial impact of two doses of vitamin A during treatment of measles is well established. WHO's current policy advocates administering vitamin A to all acute cases. A high dose of vitamin A is given immediately on diagnosis and repeated the next day.	addition, measles infection may precipitate acute VAD and xerophthalmia. As a result, measles accounts for a large proportion of preventable childhood blindness, particularly in Africa.	
9		*Daily iron supplementation for children 6 to 23 months' old*	The standard quality of care practice of children 6-23 months old where the diet does not include fortified foods or with prevalence of severe anaemia at approximately one year of age is to administer supplements of iron at a dosage of 2mg/kg of body weight per day Infants, in comparison with other age groups, have higher iron requirements because they grow very rapidly. They are normally born with good iron stores. However, beyond	Iron supplementation has traditionally been given on a daily basis. However, several studies suggest that it can be consumed at a low dose on a regular basis to be effective as there is a limit to the iron absorption capacity of the intestine. Intermittent doses once, twice or three times per week (90) on non-consecutive days may	WHO

			six months of age the iron content of milk is not sufficient to meet many infants' requirements, and unfortified complementary foods are usually low in iron, making this age group susceptible to iron deficiency. LBW infants are born with fewer iron stores and thus are at higher risk of developing iron deficiency at a younger age.	be an alternative to daily supplementation to improve iron stores and prevent anaemia (Iannotti LL *et al.* 2011.). A Cochrane systematic review assessed the benefits and safety of intermittent iron supplementation with iron, or iron combined with other micronutrients for children up to the age of 12 years (90) children living in various geographical settings, including malaria-endemic regions. Intermittent iron supplementation in this age group effectively increased haemoglobin concentrations and prevented anaemia when compared with a placebo or no intervention. However, children receiving intermittent iron supplementation were more likely to be anaemic at the end of their supplementation regimen than those supplemented daily.	
10		*On Zinc supplementation for diarrhoea management*	The standard quality of care practice for the management of diarrhoea in children under six months of age is to advise mothers and other caregivers to provide children with 20 mg per day of zinc	Globally, more than one million children under five years of age every year succumb to the fluid loss and dehydration	WHO

			supplementation for 10–14 days (10 mg per day for infants) (WHO 2010). Oral rehydration salts (ORS), and particularly the low osmolarity formula, are a proven life-saving commodity for the treatment of children with diarrhoea (Cash RA *et al.* A 1970; Pierce NF *et al.* 1969). Use of zinc supplements with ORS to treat children with diarrhoea reduces deaths in children less than five years of age (WHO. 2013.).	associated with the majority of diarrhoea-related deaths. A continuing lack of safe water and sanitation in many parts of the world means that diarrhoea would remain a leading cause of death among infants and young children in low- and middle-income countries. Zinc for the treatment of diarrhoea reduces diarrhoea mortality by 23% (Fischer Walker CL, Black RE. 2010,) and is associated with a 14–15% reduction in incidence of pneumonia or diarrhoea. Use of zinc supplements has been found to reduce the duration and severity of diarrhoeal episodes and the likelihood of subsequent infections for two to three months (WHO, 2013) At the recommended dose zinc supplements are generally accepted by both children and caregivers and are effective regardless of the type of zinc salt used. Supplementary zinc benefits children with diarrhoea because it is a vital micronutrient essential for protein	

				synthesis, cell growth and differentiation, immune function and intestinal transport of water and electrolytes. Zinc deficiency is ether caused by low consumption of zinc rich foods (mainly foods of animal origin) or inadequate absorption caused by dietary fiber and phytates present in the foods (WHO,2013)	
11		*On Management of children with severe acute malnutrition (SAM)* The FMOH, (2016) defined Severe acute malnutrition as the presence of bilateral oedema and or severe wasting (weight-for-height/length <-3 Z score or mid-upper arm circumference < 115 mm). Additionally, the Mid-upper arm circumference (MUAC) can be used as an independent criterion for identification of children 6–59 months old with SAM, with the cut-off point of 115 mm (WHO, UNICEF 2009)	For all Children with severe acute malnutrition, the standard practice is to examine if they have medical complications or not. For Children with Severe Acute Malnutrition ***without complication,*** they would be managed under the Community Based Care (Outpatient, Therapeutic programme). However, for Children with Severe Acute Malnutrition ***with medical complications,*** they would be placed in Stabilization Care (Inpatient facility). WHO recommendation for inpatient management of children with SAM The standard quality of care on management of children 6 months or older with SAM, with no appetite or with medical complications should be hospitalized for inpatient management (WHO, UNICEF 2009; FMOH, 2016).	Large numbers of children with SAM can be treated in their communities without being admitted to a health facility or a therapeutic feeding center, if properly combined with a facility-based approach for those malnourished children with medical complications or below six months of age. This approach when implemented on a large scale, could prevent the deaths of hundreds of thousands of children (139). SAM in children can be identified in the community before the onset of complications by CHWs or volunteers using simple coloured plastic strips that are	WHO

			All children who are 0 to 59 months and have the above diagnostic features of Severe Acute Malnutrition should be admitted for stabilization care and as soon as they regain their appetites should continue as outpatients, whenever the caregiver agrees and an outpatient program is in place. WHO recommendation for outpatient management of children with SAM The standard quality of care on management of children 6 months or older with SAM, with appetite and no medical complications is to be managed in the community with regular visits to a health center. (WHO and UNICEF 2009). This community-based approach involves timely detection of SAM in the community and provision of ready-to-use therapeutic foods (RUTF) or other nutrient-dense foods at home and regular medical monitoring at a health facility for those without medical complications.	designed to measure MUAC. They can also be trained to recognize bilateral oedema of the feet, another sign of this condition. Uncomplicated forms of SAM should be treated in the community using an RUTF until adequate weight has been gained. In some settings it may be possible to construct an appropriate therapeutic diet using locally available nutrient-dense foods with added micronutrient supplements. Children with SAM need safe, palatable foods with high energy content and adequate amounts of vitamins and minerals. RUTF are soft or crushable foods that can be consumed easily by children from the age of six months. RUTF has a similar nutrient composition to F100, which is the therapeutic diet used in hospital settings, except for its iron content. Unlike F100, RUTF are not water-based, meaning that bacteria cannot grow in them. Therefore, these foods can be	

				used safely at home without refrigeration, even in areas where hygiene conditions are not optimal. As a result, more opportunities now exist for severely malnourished children to be discharged early from hospital for continuing care in the community	
12		*On Management of children with moderate acute malnutrition*	The Standard quality of care for the management of moderate acute malnutrition in children 6–59 months of age should include essential nutrition actions (ENAs) such as breastfeeding promotion and support, education and nutrition counselling for families, and other activities that identify and prevent the underlying causes of malnutrition, including nutrition insecurity. The dietary management of children with moderate acute malnutrition is based on the optimal use of locally available foods to improve nutritional status and prevent the condition from deteriorating to severe acute malnutrition. Supplementary foods have been used to treat children with moderate acute malnutrition and in situations of food shortage, or where some nutrients are not sufficiently available through local foods.	Moderate acute malnutrition in children is defined as a weight-for-height between-3 and -2 z-scores of the median of the WHO child growth standards without oedema. Globally, about 40 million preschool-age children meet these criteria. The dietary management of children with moderate acute malnutrition is based on the optimal use of locally available foods to improve nutritional status and prevent SAM. Nutrient-dense foods enable children to consume and maximize the absorption of nutrients in order to fulfill their requirements for energy and all essential nutrients.	WHO

				Animal-source foods are more likely to meet the amino acid and other nutrient needs of recovering children. Plant-source foods, in particular legumes or a combination of cereals and legumes, also have high-quality proteins, although they also contain some anti-nutrients such as phytates, tannins or inhibitors of digestive enzymes, which may limit the absorption of some micronutrients, particularly minerals. In situations of food shortage, or where some nutrients are not sufficiently available through local foods, supplementary foods have been used to treat children with moderate acute malnutrition.	
13	Care for Women of Reproductive Age	*On Quality of Care for Nutrition of Women of Reproductive Age*	The Standard quality of care for the nutrition of women of reproductive age, is mainly the provision of intermittent iron and folic acid supplementation as a public health intervention in menstruating women living in settings where anaemia is highly prevalent, to improve their haemoglobin concentrations and iron status and reduce the risk of anaemia. Intermittent supplementation has been shown to improve iron status more than no		WHO

			supplementation and, in many cases, it is as effective at improving iron status as daily supplementation (Allen 2002). Although daily supplementation with iron and folic acid for three months has been the standard approach for preventing and treating iron deficiency anaemia (IDA) among women, it has been shown to be costly and logistically complicated. (WHO, 2013) A Cochrane systematic review that assessed the intermittent use of iron supplements alone, or in combination with folic acid or other micronutrients, found that women who were taking intermittent iron supplements, alone or combined with other micronutrients, had higher haemoglobin and ferritin concentrations and were less likely to develop anaemia than those not receiving the supplement. However, in comparison with daily supplementation, women receiving supplements intermittently presented anaemia more frequently.		
14	Care for Pregnant and Lactating Women	*On Nutrition and Quality of Care for Pregnant and Lactating Woman*	The standard quality of care is that if a woman is diagnosed with anaemia at any time during pregnancy, she should be given daily iron (120 mg of elemental iron) and folic acid (400 µg or 0.4 mg) until her haemoglobin concentration rises to normal. She can then switch to the standard antenatal dose to prevent recurrence of anaemia.	Anaemia is a major concern among women, leading to increased maternal mortality and poor birth outcomes as well as reductions in work productivity. Severe anaemia can place both the mother and the baby in danger through increased risk	WHO

			A Cochrane review found that daily iron supplementation reduced the risk of maternal anaemia at term by 70% and iron deficiency at term by 57%, but it had no significant effect on the risk of infections during pregnancy	of blood loss during labour and can raise the risk of preterm delivery, low birth weight, and perinatal mortality. A pregnant woman is considered to be anaemic if her haemoglobin concentration during the first and third trimester of gestation is lower than 110 g/l, at sea level. A Cochrane systematic review assessing the benefits and harms of iron supplementation in healthy pregnant women was updated to arrive at this standard quality of care recommendation. (WHO, 2013)	
15		*On Vitamin A supplementation in pregnant women*	The standard quality of care is only recommended for the prevention of night blindness when there is a severe public health problem related to vitamin A <u>but NOT to pregnant women</u>. WHO published a guideline indicating that vitamin A supplementation <u>is not recommended during pregnancy</u> as part of routine antenatal care for the prevention of maternal and infant morbidity and mortality.		WHOs

			Pregnant women should be encouraged to receive adequate nutrition, which is best achieved through consumption of a healthy balanced diet. Other interventions such as dietary diversification and food fortification can be used along with vitamin A supplementation to improve vitamin A intake.		
16		*On Calcium supplementation of pregnant women*	The standard quality of care of pregnant women with calcium is to supplement them with 1.5 to 2.0 grams of elemental calcium per day in areas where dietary calcium intake is low and for women at high risk of developing hypertensive disorders during pregnancy (WHO, 2013). The recommended dose is to offer a pregnant woman three tablets three times per day, preferably with meals, for the duration of the pregnancy to achieve daily intake of 1.5 grams of elemental calcium.	Pre-eclampsia is a hypertensive disorder that develops in approximately 5% of all pregnancies, usually after about 20 weeks' gestation (Villar J *et al*. 2004). In pre-eclampsia there are often problems with the placenta, along with increased blood pressure, that can reduce blood flow and therefore oxygen and nutrient supply to the baby. These conditions may result in intra-uterine growth retardation and possibly early delivery. Pre-eclampsia may also cause serious outcomes for the mother, such as kidney and liver problems, even progressing to stroke or seizures (eclampsia) if not treated. Hypertensive disorders have been reported to be the leading cause of infant	WHO

				mortality among those of lower-income settings, (WHO Essentials of Nutrition, 2013} Calcium supplements may reduce the chance of developing pre-eclampsia, especially in high-risk women, as well as those who do not consume sufficient amounts. Women are regarded as being at high risk of developing hypertension and pre-eclampsia if they have one or more of the following risk factors: obesity, previous pre-eclampsia, diabetes, chronic hypertension, renal disease, autoimmune disease, multiple pregnancy, and either adolescent or late pregnancy. Calcium is an essential mineral that assists with many of the body's processes, such as maintaining cell membranes in nerve as well as muscle contraction (Buppasiri P *et al*, 2008). According to a recent Cochrane systematic review, supplementation with at least 1 g of calcium is associated with significantly lower risk of pregnant women developing pre-	

				eclampsia and preterm birth among women with low calcium intakes.	
17		*On Nutrition care and support for pregnant women during emergencies*	The standard quality of care for pregnant women during emergencies is to provide them with fortified food commodities that are designed to provide them 10%–12% (up to 15%) of energy from protein and 20%–25% energy from fat. The blended food must be fortified to meet two thirds of daily requirements for all micronutrients, particularly iron, folic acid and vitamin A. The blended food commodities can be provided through maternal and child health structures (in conjunction with other health services) or through blanket supplementary feeding programmes.	WHO observed that women's nutritional needs for energy, protein and micronutrients significantly increase during pregnancy and lactation, making the pregnant women to require an additional 285 kcals/day, and lactating women to require an additional 500 kcals/day. If these additional requirements are not met, there could be consequences not only for the women's health status but may also have a negative impact on infant birth weight and early development. Therefore, to meet the additional requirements of pregnancy and lactation, complementary interventions may be undertaken in addition to the provision of a basic food ration. Of note is that in both pregnancy and lactation, women have increased needs for micronutrients too.	WHO

18		On giving support for Drinking water On support for Malaria management in pregnancy On support for Nutrition education/counselling for women and communities	The standard quality of care of pregnant women with drinking water is to ensure their access to sufficient clean drinking water (extra 1 litre of clean water per day). The standard quality of care for managing malaria in pregnancy, where malaria is endemic, is to administer sulphadoxine-pyrimethamine through clinics at the beginning of the second and third trimesters and also to encourage women to use an impregnated bed net during pregnancy. They must be advised to seek immediate medical attention for all episodes of fever. Nutrition education and counselling services should be established, such as with reproductive health to provide 'safe havens' for pregnant and lactating women. These 'safe havens' should be easily-accessible areas where privacy, security and shelter are provided with access to water and food. Basic supportive care of breastfeeding mothers and their infants can be offered and peer -to-peer support nurtured.		WHO
19	*Care for the Elderly*	*On Quality of Care for the Elderly with Diabetes*	On the standard quality of care for the elderly with diabetes, the American Diabetes Association (2004) in its recommendations,	The elderly facing undernutrition problems are often overlooked due to implicit assumptions	The American Diabetes Association (2004)

			based on available evidence, indicated using what it called A- level Grade of evidence that since energy requirements for older adults are less than for younger adults, physical activity should be encouraged. However, based on consensus of its experts which observed that undernutrition was more common than over nutrition in the elderly, it advised that exercise should be recommended when prescribing weight loss than diets. The Association further advised that the nutrition therapy recommended must still take into account individual circumstances, preferences, and cultural and ethnic preferences, and the person with diabetes should be involved in the decision-making process.	that nutritional deficiencies are inevitable consequences of aging and diseases (Adebusoye, *et al* 2012). The Elderly are exposed to more risks of contracting a disease, are often discriminated against, resulting in social isolation, and, sometimes, abandonment. Unfortunately, there is scarcity of data of the nutritional status of older Nigerians	
20		*On Nutrition and Quality of Care for the Elderly with Hypertension*	Following recommendations were made based on systematic reviews on the efficacy of diet–related factors that lower elevated Blood Pressure in the prevention and treatment of hypertension. <u>Weight Loss</u> A substantial and largely consistent body of evidence from observational studies and clinical trials documents that weight is directly	Elevated blood pressure (BP) remains an extraordinarily common and important risk factor for cardiovascular and renal diseases, including stroke, coronary heart disease, heart failure, and kidney failure. BP is a strong, consistent, continuous, independent, and etiologically relevant risk factor for cardiovascular and renal disease. (Appel, L J et al 2006). In non-hypertensive individuals, including	The American Heart Association (Appel, L J *et al* 2006), in a landmark Scientific Statement which summarizes evidence based on systematic reviews on the efficacy of diet –related factors that lower BP in

			associated with BP. In aggregate, available evidence strongly supports weight reduction, ideally attainment of a BMI <25 kg/m^2, as an effective approach to prevent and treat hypertension. More importantly, in view of the well-recognized difficulties of sustaining weight loss, efforts to prevent weight gain among those who have normal body weight are critically important. <u>Reduced Salt Intake</u> On average, as dietary salt (sodium chloride) intake rises, so does BP. Evidence includes results from animal studies, epidemiological studies, clinical trials, and meta-analyses of trials. In addition to reduced BP, clinical trials have documented that a reduced sodium intake can prevent hypertension (relative risk reduction of ≈20% with or without concomitant weight loss), can lower BP in the setting of antihypertensive medication, and can facilitate hypertension control (Appel, L J *et al* 2006). <u>Increased Potassium Intake</u> High potassium intake is associated with reduced BP. A high potassium intake can be achieved through diet through consumption of fruits and vegetables that are rich in potassium, rather than supplements.	those with prehypertension, dietary changes that lower BP have the potential to prevent hypertension and more broadly to reduce BP and thereby lower the risk of BP-related clinical complications. In uncomplicated stage I hypertension (systolic BP of 140 to 159 mm Hg or diastolic BP of 90 to 99 mm Hg), dietary changes can serve as initial treatment before the start of drug therapy. Among hypertensive individuals who are already on drug therapy, dietary changes, particularly a reduced salt intake, can further lower BP and facilitate medication step-down. In general, the extent of BP reduction from dietary therapies is greater in hypertensive than in non-hypertensive individuals <u>Rationale and Evidence</u> Elevated blood pressure (BP) remains an extraordinarily common and important risk factor for cardiovascular and renal diseases, including stroke, coronary heart disease, heart failure, and kidney failure. BP is a strong, consistent, continuous, independent, and etiologically relevant risk factor for cardiovascular and renal disease. (Appel, L J et al 2006).	the prevention and treatment of hypertension.

			<u>Moderation of Alcohol Intake</u> Observational studies and clinical trials have documented a direct, dose-dependent relationship between alcohol intake and BP, particularly as the intake of alcohol increases. Importantly, this relationship has been shown to be independent of potential confounders such as age, obesity, and salt intake.[6]	In non-hypertensive individuals, including those with prehypertension, dietary changes that lower BP have the potential to prevent hypertension and more broadly to reduce BP and thereby lower the risk of BP-related clinical complications. In uncomplicated stage I hypertension (systolic BP of 140 to 159 mm Hg or diastolic BP of 90 to 99 mm Hg), dietary changes can serve as initial treatment before the start of drug therapy. Among hypertensive individuals who are already on drug therapy, dietary changes, particularly a reduced salt intake, can further lower BP and facilitate medication step-down. In general, the extent of BP reduction from dietary therapies is greater in hypertensive than in non-hypertensive individuals	

Appendix 2

Drafts of Results Framework of *Maternal Infant and Young Child Nutrition*

MYCN Result Framework

Drafts of Results Framework of School Age, Adolescent and the Elderly Nutrition

School age and Adolescent Result F

Drafts of Results Framework of Integrated Management of Moderate and Acute Malnutrition in Children under 5 years

IMAM Result Framework

Drafts of Results Framework of Micronutrient Deficiency Control

MNDC Results Framework

Drafts of Results Framework of Diet Related Non-Communicable Diseases

DR-NCD Results Framework

Drafts of Results Framework of Nutrition Surveillance and Information Systems.

NIS Results Framework

Drafts of Results Framework of Nutrition in Emergency

Nutrition in Emergency Results F

Drafts of Results Framework of Nutrition Commodities, Logistics Management System

NCLMS Result Framework

Appendix 3:

a. Total number of services by service package, Nutrition (Moderate Scenario)

	2021	2022	2023	2024	2025	Total
Women of reproductive age and adolescent girls						
Intermittent iron-folic acid supplementation (menstruating women where anaemia is public health problem)	*1,099,082*	*1,965,943*	*3,518,613*	*6,295,360*	*11,252,419*	***24,131,417***
Pregnant and lactating women						
Daily iron and folic acid supplementation (pregnant women)	*1,726,124*	*1,861,352*	*2,008,002*	*2,168,071*	*2,343,203*	***10,106,751***
Intermittent iron and folic acid supplementation (non-anaemic pregnant women)	*3,711,227*	*3,791,672*	*3,875,462*	*3,964,511*	*4,059,598*	***19,402,471***
Nutritional care and support (HIV+ pregnant and lactating women)	-	-	-	-	-	-
Nutritional care and support for pregnant and lactating women in emergencies	*90,910*	*161,715*	*287,784*	*512,575*	*913,849*	***1,966,833***
Daily FAF, postpartum, anemic women	*1,978,687*	*2,033,324*	*2,090,250*	*2,151,075*	*2,216,628*	***10,469,965***
Intermittent FAF, postpartum, non-anemic pregnant women	-	-	-	-	-	-
Counselling for pregnant women including adolescent	*14,775,732*	*15,583,800*	*16,445,892*	*17,349,628*	*18,285,180*	***82,440,232***
Children						
Zinc supplementation	*3,466,535*	*4,159,707*	*4,999,681*	*6,011,805*	*7,221,376*	***25,859,104***
Deworming (children)	*2,686,602*	*3,170,502*	*3,747,703*	*4,431,853*	*5,235,497*	***19,272,157***
Breastfeeding counselling and support	*1,310,951*	*1,583,515*	*1,913,464*	*2,314,642*	*2,803,674*	***9,926,246***
Complementary feeding counselling and support	*1,967,400*	*2,057,477*	*2,149,596*	*2,251,180*	*2,361,138*	***10,786,791***

Home fortification of food with multiple micronutrient powders (children 6-59 months)	*5,820,998*	*6,105,959*	*6,405,714*	*6,710,748*	*6,991,497*	***32,034,916***
Vitamin A supplementation in infants and children 6-59 months	*3,567,140*	*3,953,809*	*4,382,970*	*4,851,890*	*5,341,330*	***22,097,139***
Intermittent iron supplementation in children	*8,339,969*	*8,837,246*	*9,371,145*	*9,944,461*	*10,563,264*	***47,056,084***
Management of severe malnutrition (children)	*25,998*	*49,967*	*94,361*	*173,466*	*304,275*	***648,066***
Management of moderate acute malnutrition (children)	*285,647*	*437,446*	*670,003*	*1,024,751*	*1,558,677*	***3,976,525***
Infant feeding counselling and support in the context of HIV	*19,020*	*33,797*	*60,049*	*106,916*	*190,652*	***410,434***
Nutritional care and support (HIV+ children)	*65,607*	*116,092*	*204,804*	*361,131*	*637,914*	***1,385,548***
Feeding counselling and support for infants and young children in emergency situations	*19,020*	*33,797*	*60,049*	*106,916*	*190,652*	***410,434***
Total	***50,956,648***	***55,937,119***	***62,285,543***	***70,730,978***	***82,470,823***	***322,381,112***

b. Total number of services by service package, Nutrition (Ambitious Scenario)

	2021	*2022*	*2023*	*2024*	*2025*	*Total*
Women of reproductive age and adolescent girls						
Intermittent iron-folic acid supplementation (menstruating women where anaemia is public health problem)	*3,535,041*	*6,614,901*	*9,866,456*	*13,290,039*	*16,878,628*	***50,185,065***
Pregnant and lactating women						
Daily iron and folic acid supplementation (pregnant women)	*1,950,972*	*2,315,654*	*2,696,344*	*3,095,389*	*3,514,804*	***13,573,162***
Intermittent iron and folic acid supplementation (non-anaemic pregnant women)	*3,718,725*	*3,806,992*	*3,898,950*	*3,996,548*	*4,100,604*	***19,521,819***
Nutritional care and support (HIV+ pregnant and lactating women)	*-*	*-*	*-*	*-*	*-*	***-***
Nutritional care and support for pregnant and lactating women in emergencies	*292,400*	*544,130*	*806,969*	*1,082,088*	*1,370,774*	***4,096,360***
Daily FAF, postpartum, anemic women	*1,978,871*	*2,033,605*	*2,090,538*	*2,151,271*	*2,216,628*	***10,470,914***
Intermittent FAF, postpartum, non-anemic pregnant women	*-*	*-*	*-*	*-*	*-*	***-***
Counselling for pregnant women including adolescent	*14,796,672*	*15,616,353*	*16,479,648*	*17,372,959*	*18,285,180*	***82,550,812***
Children						
Zinc supplementation	*3,924,005*	*5,015,675*	*6,176,452*	*7,405,034*	*8,691,221*	***31,212,387***
Deworming (children)	*2,994,636*	*3,751,804*	*4,557,183*	*5,409,476*	*6,301,135*	***23,014,234***
Breastfeeding counselling and support	*1,400,491*	*1,728,247*	*2,069,726*	*2,427,415*	*2,803,674*	***10,429,553***

Complementary feeding counselling and support	*2,187,556*	*2,506,538*	*2,835,089*	*3,182,648*	*3,548,334*	***14,260,165***
Home fortification of food with multiple micronutrient powders (children 6-59 months)	*6,078,075*	*6,635,471*	*7,223,074*	*7,828,821*	*8,413,789*	***36,179,230***
Vitamin A supplementation in infants and children 6-59 months	*3,610,235*	*4,024,005*	*4,460,804*	*4,913,307*	*5,356,605*	***22,364,955***
Intermittent iron supplementation in children	*8,758,986*	*9,678,646*	*10,638,763*	*11,641,834*	*12,693,653*	***53,411,882***
Management of severe malnutrition (children)	*111,582*	*197,971*	*271,013*	*329,406*	*371,292*	***1,281,264***
Management of moderate acute malnutrition (children)	*572,985*	*982,891*	*1,417,627*	*1,875,365*	*2,344,702*	***7,193,570***
Infant feeding counselling and support in the context of HIV	*61,211*	*113,860*	*168,668*	*226,129*	*286,441*	***856,309***
Nutritional care and support (HIV+ children)	*211,017*	*390,619*	*574,296*	*762,433*	*957,060*	***2,895,426***
Feeding counselling and support for infants and young children in emergency situations	*61,211*	*113,860*	*168,668*	*226,129*	*286,441*	***856,309***
Total	***56,244,670***	***66,071,224***	***76,400,265***	***87,216,292***	***98,420,964***	***384,353,415***

Appendix 4: Intervention Overview

a. Moderate Scenario

	Coverage			Target population
	Baseline (2020)	Source	Target (2025)	
Women of reproductive age and adolescent girls				
Intermittent iron-folic acid supplementation (menstruating women where anaemia is public health problem)	2.5	Expert opinion	40	Women of reproductive age (15-49)
Pregnant and lactating women				
Daily iron and folic acid supplementation (pregnant women)	30.53829	NDHS 2018	40	Pregnant women
Intermittent iron and folic acid supplementation (non-anaemic pregnant women)	69.3	NDHS 2018	69.3	Pregnant women
Nutritional care and support (HIV+ pregnant and lactating women)	76.3	NAIIS 2018	80	Live births
Nutritional care and support for pregnant and lactating women in emergencies	2.5	Expert opinion	40	Pregnant women
Daily FAF, postpartum, anemic women	58	NDHS 2018	60	Live births
Intermittent FAF, postpartum, non-anemic pregnant women	2.5	Expert opinion	40	Live births
Counselling for pregnant women including adolescent	57	NDHS 2018	65	Women of reproductive age (15-49)
Children				
Zinc supplementation	23	NDHS 2018	50	Children 12-59 months
Deworming (children)	25	NDHS 2018	50	Children 12-59 months
Breastfeeding counselling and support	28	NNHS 2018	65	Live births
Complementary feeding counselling and support	35.5	NNHS 2018	40	Children 6-23 months
Home fortification of food with multiple micronutrient powders (children 6-59 months)	45.6	NNHS 2018	50	Children 6-59 months
Vitamin A supplementation in infants and children 6-59 months	45	NDHS 2018	65	Children 6-59 months
Intermittent iron supplementation in children	41	NDHS 2018	50	Children 2-12

Management of severe malnutrition (children)	1.5	NNHS 2018	40	Children 6-59 months
Management of moderate acute malnutrition (children)	5.5	NNHS 2018	40	Children 6-59 months
Infant feeding counselling and support in the context of HIV	2.5	Expert opinion	40	Children 0-23 months
Nutritional care and support (HIV+ children)	2.5	Expert opinion	40	Children 6-14
Feeding counselling and support for infants and young children in emergency situations	2.5	Expert opinion	40	Children 0-23 months

a. Ambitious Scenario

	Coverage			***Target population***
	Baseline (2020)	Source	Target (2025)	
Women of reproductive age and adolescent girls				
Intermittent iron-folic acid supplementation (menstruating women where anaemia is public health problem)	2.5	Expert opinion	60	Women of reproductive age (15-49)
Pregnant and lactating women				
Daily iron and folic acid supplementation (pregnant women)	30.53829	NDHS 2018	60	Pregnant women
Intermittent iron and folic acid supplementation (non-anaemic pregnant women)	69.3	NDHS 2018	70	Pregnant women
Nutritional care and support (HIV+ pregnant and lactating women)	76.3	NAIIS 2018	80	Live births
Nutritional care and support for pregnant and lactating women in emergencies	2.5	Expert opinion	60	Pregnant women
Daily FAF, postpartum, anemic women	58	NDHS 2018	60	Live births
Intermittent FAF, postpartum, non-anemic pregnant women	2.5	Expert opinion	60	Live births
Counselling for pregnant women including adolescent	57	NDHS 2018	65	Women of reproductive age (15-49)

Children				
Zinc supplementation	23	NDHS 2018	60	Children 12-59 months
Deworming (children)	25	NDHS 2018	60	Children 12-59 months
Breastfeeding counselling and support	28	NNHS 2018	65	Live births
Complementary feeding counselling and support	35.5	NNHS 2018	60	Children 6-23 months
Home fortification of food with multiple micronutrient powders (children 6-59 months)	45.6	NNHS 2018	60	Children 6-59 months
Vitamin A supplementation in infants and children 6-59 months	45	NDHS 2018	65	Children 6-59 months
Intermittent iron supplementation in children	41	NDHS 2018	60	Children 2-12
Management of severe malnutrition (children)	1.5	NNHS 2018	60	Children 6-59 months
Management of moderate acute malnutrition (children)	5.5	NNHS 2018	60	Children 6-59 months
Infant feeding counselling and support in the context of HIV	2.5	Expert opinion	60	Children 0-23 months
Nutritional care and support (HIV+ children)	2.5	Expert opinion	60	Children 6-14
Feeding counselling and support for infants and young children in emergency situations	2.5	Expert opinion	60	Children 0-23 months

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