Roadmap for Nutrition in South Africa

2013-2017

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Roadmap for Nutrition in South Africa

2013 - 2017

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Department of Health – 2013
ISBN: 978-1-920031-75-6
www.doh.gov.za

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Abbreviations

AFASS	Acceptable, Feasible, Affordable, Sustainable, Safe
AIDS	Acquired Immuno-Deficiency Syndrome
ANC	Antenatal Care
ART	Antiretroviral therapy
BANC	Basic Antenatal Care
BOD	Burden of Disease
CF	Complementary feeding
CPD	Continuing Professional Development
CHW	Community Health Workers
CHIP	Child Healthcare Problem Identification Programme
CTC	Community Therapeutic Care
DHIS	District Health Information System
EBF	Exclusive Breastfeeding
ECD	Early Childhood Development
EDL	Essential Drugs List
EPI	Expanded Programme on Immunisation
FBDG	Food-Based Dietary Guidelines
GAIN	Global Alliance In Nutrition
GDP	Gross Domestic Product
GMP	Growth Monitoring and Promotion
HHCC	Household and Community Component (of IMCI)
HIV	Human Immunodeficiency Virus
HPCSA	Health Professions Council of South Africa
HSRC	Human Sciences Research Council
IDD	Iodine Deficiency Disorders
IDP	Integrated Development Plan
IUGR	Intra-uterine growth retardation
IMCI	Integrated Management of Childhood Illness
KMC	Kangaroo Mother Care
LBW	Low Birth Weight
MBFI	Mother Baby Friendly Initiative
MDG	Millennium Development Goal
MNCWH	Maternal, Neonatal, Child and Women's Health
MTSF	Medium Term Strategic Framework

NDOH	National Department of Health
NFCS	National Food Consumption Survey
PHC	Primary Health Care
PLWHA	People Living with HIV and AIDS
PMTCT	Prevention of Mother to Child Transmission (of HIV infection)
SADHS	South African Demographic and Health Survey
SUN	Scaling Up Nutrition
RED (strategy)	Reach Every District (strategy)
RTHB	Road to Health Booklet
SAQA	South African Qualifications Authority
StatsSA	Statistics South Africa
TB	Tuberculosis
UNICEF	United Nations Children's Fund
VAS	Vitamin A Supplementation
WHA	World Health Assembly
WHO	World Health Organization
W/A	Weight-for-Age
W/H	Weight-for-Height
YFS	Youth Friendly Services

Glossary of Terms

Anaemia: A reduction below normal in the number of erythrocytes/red blood cells (RBC) *(per cu/mm)*, in the quantity of haemoglobin or in the volume of packed cells per 100ml of blood.

Anthropometry: The use of body measurements to assess nutritional status in an individual. Body measurements include: age, sex, weight, height, oedema (fluid retention) and mid upper arm circumference.

Complementary feeding: Giving a child other foods (solid or semi-solid) in addition to breastfeeding or replacement feeding to meet the baby's nutrient requirements from 6 months of age.

Exclusive breastfeeding: Feeding a child through only breastfeeding, giving no other liquids or solids, not even water, with the exception of prescribed drops or syrups consisting of vitamins and mineral supplements or medicines, and expressed breastmilk.

Food security: When all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.

Household food security: Access by a household to amounts of food of the right quantity and quality to satisfy the dietary needs of all its members throughout the year.

Low birth weight: A birth weight of less than 2500gm, whether pre-term or small for date.

Malnutrition: An abnormal physiological condition caused by deficiencies, excesses or imbalances in energy, protein and/or other nutrients.

Mixed feeding: Feeding both breastmilk and other foods or liquids to a child under 6 months of age.

Moderate acute malnutrition: Also known as wasting, is defined by a weight-for-height indicator between -3 and -2 z-scores (standard deviations) of the international standard or by a mid-upper arm circumference (MUAC) between 11.5 cm and 12.5 cm.

Nutrition: Study of food and its nutrients; its functions, actions, interactions and balance in relation to health and disease

Severe Acute Malnutrition: A weight-for-height measurement of 70% or less below the median or 3 SD or more below the mean international reference values, the presence of bilateral pitting oedema, or a mid-upper arm circumference of less than 115 millimetres in children six – 60 months old.

Stunting: Past chronic malnutrition, where low weight-for-age has eventually caused low height-for-age, but weight-for-height may be normal.

Targeted supplementary feeding: A type of intervention that usually provides nutritional supplements to selected group of children, pregnant and lactating women and other nutritionally vulnerable groups.

Therapeutic feeding: The feeding mechanism of children who are severely acute malnourished

Under-nutrition: When the body contains lower than normal amounts of one or more nutrients, i.e. deficiencies in macronutrients and/or micronutrients.

Foreword

Sound nutrition is a basic human right and a prerequisite for the attainment of a person's full intellectual and physical potential. Nutrition is also the outcome of development processes in society and not simply a service to be delivered. Improving nutrition is thus an ethical imperative, a sound economic investment and a key element of health care at all levels. The Department of Health plays a key role in developing and implementing nutrition programmes and services.

In South Africa, malnutrition is manifested in both under-nutrition and over-nutrition. This paradox of over- and under-nutrition, as well as the range of micronutrient deficiencies of public health significance, requires complementary strategies and an integrated approach to ensure optimal nutrition for all South Africans. The situation is further complicated by the many causes of malnutrition, which could be direct factors such as inadequate food intake, or underlying factors such as household food insecurity or even basic factors such as a lack of resources.

Research published in the Lancet Nutrition Series of 2008 showed that maternal and child malnutrition are responsible, globally, for more than one third of all deaths of children under 5 years old. This shows the importance of early and integrated intervention strategies targeted at malnutrition in pregnant women and children under two years old for healthy development. Missing the *"window of opportunity"* – the thousand-day period from conception to two years of age – to improve nutrition can result in long-term permanent damage. There is a clear window of opportunity for addressing nutrition, and after age two, this window closes rapidly and the effects of undernutrition are largely irreversible. It is therefore critical that interventions to prevent undernutrition reach mothers and young children during this period. In addition, it is more effective to prevent child undernutrition than to treat it, and therefore investments aimed at improving nutrition should focus on the thousand-day period.

This five-year roadmap for Nutrition for South Africa seeks to direct nutrition-related activities in the health sector to the achievement of the sector's four focus areas, which are: increasing life expectancy; decreasing maternal and child mortality; combating HIV and AIDS and decreasing the burden of disease from Tuberculosis; and strengthening health system effectiveness.

The Roadmap draws on the recommendations of recent reviews of the implementation of the Integrated Nutrition Programme[1] notably the Landscape Analysis.[2] It provides a framework to reposition nutrition and nutrition-related issues and actions prominently in the health care system with particular reference to the Strategic Plan for Maternal, Neonatal, Child and Women's Health (MNCWH) and Nutrition in South Africa[3]. Recognizing the multisectoral nature of the nutrition challenge, and the many role players in the public and the private sectors, the Roadmap also highlights the role of the health sector in supporting multisectoral actions on nutrition.

Dr P A Motsoaledi (MP)
Minister of Health
Date: 13 March 2013

[1] Department of Health. *Integrated Nutrition Programme*, Department of Health, South Africa, 1995.

[2] Department of Health. *Landscape Analysis on Countries' Readiness to Accelerate Action to Reduce Maternal and Child Under-nutrition: Nationwide Country Assessment in South Africa*, Department of Health, South Africa, 2010.

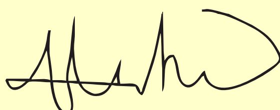
[3] Department of Health. *Strategic Plan for Maternal, Neonatal, Child and Women's Health (MNCWH) and Nutrition in South Africa*, Department of Health, South Africa, 2012.

Acknowledgements

The accomplishment of the Roadmap for Nutrition in South Africa is due to the generous assistance from many individuals throughout South Africa. The success of this project is due to the co-operation and facilitation extended to the team that put the roadmap together. Thanks go to the National Department of Health's project team, in particular Ms L Moeng, for her oversight over the projec and Mr G Tshitaudzi for managing and coordinating the project for final compilation of the roadmap. Special thanks go to lead consultant, Dr M McLachlan for her technical input, commitment and dedication, which contributed a great deal to the development of the roadmap. Our sincere gratitude also goes to the provincial nutrition managers: Ms N. Kama (EC), Mr D. Bohlale (FS), Mr T. Mashamba (GP), Ms L. Spies (KZN), Mr D. Matthews (LP), Ms M. Van der Merwe (MP), Ms M le Roux (NC), Ms T Kgenwenyane (NW) and Ms H. Goeiman (WC).

Special thanks to our development partners, namely; UNICEF and WHO country offices and GAIN for their technical inputs into the roadmap. Our academic and research institutions, all ten universities that offer nutrition programmes and the Medical Research Council, are also acknowledged for their contributions in the development of the roadmap.

We are very grateful to the technical support received within the National Department of Health namely: Dr. Yogan Pillay, Ms V. Moodley, Mr A. Manyuha, Ms P. Malibe, Ms M. de Hoop, Ms Z. Maluleke, Ms A. Behr and Ms A. Ngqaka.



Ms M P Matsoso
Director-General: Health
Date: 11 March 2013

1 INTRODUCTION

1.1 Background

One of the major goals of the South African government's Medium Term Strategic Framework (MTSF) for 2009–2014 is to improve the health profile of all South Africans. The Strategic Plan of the National Department of Health (NDOH) provides a framework of the implementation of the 10 Point Plan of the health sector for 2009-2014, which is aimed at creating a well-functioning health system capable of producing improved health outcomes. The outcome-based approach adopted by government to accelerate the implementation of the NDOH Strategic plan guides the development of specific strategies in the sector. The four focus areas of the Health Negotiated Service Delivery Agreement are:

- increasing life expectancy;
- decreasing maternal and child mortality;
- combating HIV and AIDS and decreasing the burden of disease from Tuberculosis; and
- strengthening health system effectiveness.

This five-year Roadmap for Nutrition for South Africa seeks to direct nutrition-related activities in the health sector to achieve the sector's four focus areas. The strategy draws on the recommendations of recent reviews of the implementation of the Integrated Nutrition Programme[1] notably the Landscape Analysis.[2] It provides a framework to reposition nutrition and nutrition-related issues and actions prominently in the health care system[3] with particular reference to the Strategic Plan for Maternal, Neonatal, Child and Women's Health (MNCWH) and Nutrition in South Africa. Recognizing the multisectoral nature of the nutrition challenge, and the many role players in the public and the private sector, the roadmap also highlights the role of the health sector in supporting multisectoral actions on nutrition.

Malnutrition undermines progress towards the Millennium Development Goals (MDGs) in particular those goals related to poverty, maternal health, child mortality and education[4], and indirectly to the remaining MDGs. With regard to the four outcome goals of the South African health sector, malnutrition contributes directly and indirectly to lower life expectancy particularly through its impact on child and maternal mortality and its contribution to the burden of chronic diseases. Malnutrition also hastens disease progression among people with HIV and TB, and puts added pressure on health care services. The costs of under-nutrition are pervasive, spans generations and contributes to deepening poverty. Proven cost-effective nutrition intervention strategies exist, which, if implemented on a large scale, could significantly reduce mortality and morbidity and lower health care costs. The next section provides a brief description of the nutrition situation in South Africa, and highlights the need for a multisectoral approach to addressing this key development challenge.

1.2 Current nutrition situation in South Africa

South Africa is in a nutrition transition in which under-nutrition, notably stunting and micronutrient deficiencies, co-exist with a rising incidence of overweight and obesity and the associated consequences such as hypertension, cardiovascular disease and diabetes. Within the context of the HIV and AIDS pandemic and food insecurity, the high prevalence of under-nutrition, micronutrient deficiencies and emergent over-nutrition presents a complex series of challenges. Undernutrition has stayed roughly constant in South Africa since the early 1990s. Despite our relatively high per capita income, we have rates of child stunting (18%) comparable to low-income countries in its region, and higher rates of stunting than lower-income countries in other regions. While some indicators show improvement, several conditions seem to have worsened over the past decade.[5] In addition; children's nutritional status varies considerably among the nine provinces and possibly within each province. This has bearing on targeting and prioritization for interventions and resource allocation.

A similar pattern emerged for the prevalence of underweight, with almost one out of ten children being affected nationally. Wasting is less prevalent, affecting one out of twenty children nationally. In line with global trends, there is an alarming increase in the prevalence of overweight and obesity among all South Africans.[6] Overweight affects 4.8% of children and is highest (5.5%) in urban formal areas. About 26.6% of women are overweight (excluding obesity) and 24.9% are obese. The South African National Youth Health Behaviour Survey reported that 20% and 5% of grades 8 to 11 learners were overweight and obese respectively[21]. While substantial progress has been recorded with regard to folate and iodine status, findings on other micronutrient deficiencies among women and children from the National Food Consumption Survey (NFCS) indicate that problems persist and nutritional status may be deteriorating. About 63.6% of children between 1 and 9 years were vitamin A deficient, and the prevalence of vitamin A in women of child bearing age at 27.2%.

The prevalence of anaemia in children and women was at 27.9% and 29.4% respectively. About forty five percent (45.3%) of children were found to be zinc deficient. South Africa has essentially achieved the virtual elimination of Iodine Deficiency Disorders (IDD). At both the national and provincial level there has been a consistent increase since 1998 in the percentage of households using and consuming salt with an iodine content of more than 15ppm. However, the Limpopo Province needs special attention given that it had both the lowest mean iodine concentration at 20ppm and the lowest percentage of households with adequately iodized salt (45.3%).

1.3 Global imperatives in scaling up nutrition

In January 2008 the *Lancet* published a series of articles defining the magnitude and consequences of under nutrition and demonstrated the availability and potential benefits of proven interventions. They focused on pregnancy and early childhood - from conception to 24 months of age but these findings can also be extended to the chronically ill. These interventions include:

- empowering women so they can pursue optimal nutrition during pregnancy and when children are born (including exclusive breast feeding, ante-natal supplements, appropriate complementary feeds from age six months and food-related hygiene);
- enabling adequate intake of vitamins and minerals among those most in need through diverse diets, fortified foods and supplements; and
- ensuring that those who are at risk of malnutrition can access and benefit from the food and nutrients they need for growth and good health (through special attention to the development of communities at risk of malnutrition, nutritional management of infections and therapeutic feeding of individuals who are malnourished).

A Framework for Scaling up Nutrition was developed in 2010 to put nutrition back on the international agenda. A Road Map to Scale Up Nutrition (SUN) was then developed as a key contribution to realizing the Millennium Development Goals. The Road Map proposes a multi-stakeholder global effort to Scale Up Nutrition (SUN). The SUN Road Map is based on a Framework for Action to Scale-Up Nutrition (SUN Framework), released in April 2010.[7] The Copenhagen Consensus of 2012 on hunger and malnutrition also reiterated the scaling up of cost-effective interventions such as breastfeeding as the best investment in reducing childhood undernutrition[22].

1.4 How Nutrition contributes to Health Sector Priorities

Increasing life expectancy

Worldwide, malnutrition is associated, directly or indirectly, with 60% of all child deaths. Country-specific data for South Africa on the contribution of stunting and wasting to the burden of disease (BOD) are not available, but available studies suggest that malnutrition also plays an important role in morbidity and mortality in South Africa. A recent Child Healthcare Problem Identification Programme (CHIP) audit of child deaths in participating hospitals found that about 63% of under fives who died were malnourished, with the majority of them being infected with HIV.[8] Appropriate management of HIV, including nutritional management, can avert the deterioration and eventual death of these patients.[9] The Lancet Nutrition Series concluded that known interventions could reduce stunting at 35 months of age by 36%; mortality between birth and 36 months by 25% and disability-adjusted life years (DALYs) due to stunting, severe wasting, intra-uterine growth retardation (IUGR) and micronutrient deficiencies by 25%. If these estimates are applied to South African data, the large-scale implementation of key evidence-based nutrition interventions country-wide could save an estimated 18000 deaths among under five children, and contribute significantly to lowering maternal and neonatal mortality.

Decreasing Infant and Maternal mortality

The prevention of maternal and child undernutrition is a long-term investment that will benefit the present generation and their children.[10] Undernutrition begins with the mother which may lead to

health problems for the mother and intrauterine growth restrictions.[11] Iron deficiency is a risk factor for maternal mortality, responsible for 115, 000 maternal deaths per year globally, which is 20% of maternal mortality.[12] The very high mortality and disease burden resulting from these nutrition-related factors make a compelling case for the urgent implementation of proven interventions.

The Lancet series identified five key evidence-based interventions, namely breastfeeding promotion, which could save 22% of children from dying if initiated within the first hour of delivery; complementary feeding promotion and strategies with or without food supplements; micronutrient interventions which include fortification and supplementation such as Vitamin A supplementation which can reduce deaths from measles and diarrhoea by 50% and 40% respectively, and overall mortality by 25 percent[13]; interventions for maternal nutrition, especially iron-folate supplementation which can result in a 73% reduction in the risk of anaemia at term; as well as interventions for the treatment of severe acute malnutrition.[14]

Combating HIV and AIDS and decreasing the burden of disease from Tuberculosis

Nutritional status affects the progression of the HIV infection and the infection negatively affects the nutritional status of the patient because it depletes the body's nutrient stores. A good nutritional status is related to the delayed progression of the infection to the AIDS stage. Stabilising and maintaining good nutritional status is therefore essential in the management of HIV.[15] Malnutrition and TB are mutually reinforcing. Both undernutrition and micronutrient deficiencies increase the risk of tuberculosis. TB leads to reduction in appetite, nutrient malabsorption, and altered metabolism, leading to wasting. It has been found that malnourished tuberculosis patients have delayed recovery and higher mortality rates than well-nourished patients.[16]

Improving health care effectiveness

Improving the nutritional status of the population will benefit the health system and reduce the economic burden of medical treatment and care in a number of ways. It can reduce the demand for curative treatment, and thus the number of patients, shorten the duration of hospital stays and improve recovery rates.[17]

1.5 Assessment of current nutrition interventions

In 2009, South Africa undertook the *Landscape Analysis* assessments in order to assess the country's readiness to accelerate action in nutrition. It used a health systems-based conceptual framework to guide a review process that identified bottlenecks and gaps in policies and programme implementation. The following challenges were identified during the assessments.[2]

- Stakeholders had different views on the major causes and priority nutritional problems facing South Africa. The perception was that nutrition action consists of the provision of food parcels and food gardens.

- Policies were not streamlined to focus on key nutritional problems as identified through national studies and routinely collected data. There is a need to consolidate existing guidelines into a small number of intervention programmes, to avoid continued implementation of ill-defined nutrition activities.
- Lack of a multisectoral nutrition working group, which would include various departments and partners (e.g. industry, academia, civil society, development partners, etc.) and would play a key role in advocating for greater attention to nutrition focusing on priority interventions, and would promote better coordination among the different role players.
- Lack of a comprehensive monitoring and evaluation plan and nutrition surveillance system and poor use of information for decision making.
- While there has been an increase in budgetary allocation to nutrition, it remains less than 0.3% of the health budget, and the bulk of funding is spent on supplementary feeding. Furthermore, the funds are not always available for nutrition interventions due to reallocation to other priorities. Further analysis is needed to determine what proportion of the allocated nutrition budget is actually spent on priority nutrition interventions. There is a concern that the returns on the nutrition expenditures are not as high as it could be, due to inappropriate interventions, and weak implementation.
- Major barriers in scaling up nutritional interventions in South Africa include:
  - Inadequate implementation of evidence-based nutritional interventions that have high impact on women and children.
  - Lack of community-based nutritional interventions and under-utilization of services offered by community-based organizations.
  - Shortage of human resources and inequitable distribution especially at the districts and facility level. Very little progress has been made to ensure the availability and equitable distribution of nutrition workers who have skills to work closely with communities within the district health system. There are concerns that reliance on other cadres of health workers to deliver nutrition services will continue to result in low coverage and quality of such interventions.
  - A lack of copies of guidelines and policies, and essential supplies such as zinc supplements in some health facilities.
  - Important nutrition issues, strategies and interventions are not included in the pre-service training programmes, as well as continuous professional development of health care personnel, including doctors and nurses.
  - Poor quality of information systems – review of some of the DHIS nutrition-related indicators suggest that there may be significant under-reporting of malnutrition, making it difficult to identify areas in priority need of intervention.

1.6 A multi-sectoral approach in addressing nutrition problems

Within the context of the HIV and AIDS pandemic, widespread poverty and persistent food insecurity,[18] the high prevalence of under-nutrition, micronutrient deficiencies and over-nutrition presents a complex series of challenges. This situation requires complementary strategies and

an integrated approach to ensure optimal nutrition for all South Africans. Routine operations of government through existing sector-specific actions alone will not successfully and effectively address malnutrition.[19] High level political will and sustained commitment to improving the nutrition security for all people of South Africa through a multisectoral approach that involves several government departments at national, provincial and local level, the private sector and civil society, is needed. Such an approach can improve nutrition in three ways. Firstly, malnutrition can be prevented over time, by intensifying action on the underlying causes of malnutrition, including inadequate income, food insecurity, unsafe water and poor sanitation, as well as gender inequality. Secondly, integrating specific nutrition goals into programmes in relevant sectors, such as education, agriculture, rural development and social development, and including at least one nutrition outcome indicator for each of those sectors can also move the nutrition agenda forward.

Thirdly, the unintended consequences on nutrition of national and international economic and social policies must also be monitored, to minimize potential negative consequences and improve policy coherence. The health sector plays a leading role in addressing immediate causes of malnutrition by intensifying the implementation of targeted nutrition interventions with demonstrated effect as highlighted in the *Lancet Series.* These types of interventions are usually referred to as "short routes" to reducing undernutrition. The health sector can also play a key role in advocating and providing technical support for such multisectoral action to achieve the nation's nutrition goals. Addressing malnutrition will contribute directly and indirectly to achieving the MDGs as well as the national development goals, including the four priority goals of the health sector.

2 RATIONALE FOR NUTRITION ROADMAP

The Integrated Nutrition Programme has provided a broad framework for the reorientation of nutrition services in South Africa since 1994, and significant gains were made in this period, particularly in the development of specific policies, and the implementation of micronutrient strategies. [1] There is now a need to focus on priority target groups and interventions that can have the biggest impact, namely in the life-cycle stages before and during pregnancy, and in the first two years of life. Optimal nutrition during this period lays the foundation for a long and healthy life and reduces the risk of developing diet-related chronic diseases. The first 1000 days (from gestation to 24 months) is therefore internationally recognized as the 'window of opportunity' for direct nutrition interventions.[20] The contribution of nutrition in achieving the Millennium Development Goals (MDGs), in particular MDG 1, 4 and 5, make a strong case for focused attention on scaling up evidence-based nutritional interventions. In addition, given the high burden of HIV and Tuberculosis, and the close interconnection between nutritional status and disease progression of these conditions, a particular focus on strengthening the focus on nutrition in their prevention, control and management is appropriate. Non-communicable diseases are amongst the major causes of death in South Africa with the main contributory factors being unhealthy diets and insufficient physical activity.

A range of nutrition-related policies and guideline documents already exist to inform the implementation of the priority interventions. The Roadmap must therefore support the redirection of human and financial resources that are currently devoted to lower priority actions towards the scaled up implementation of priority interventions and ensure that nutrition is effectively integrated into core strategies such as BANC, IMCI, and PMTCT. The Roadmap provides a framework for the implementation of existing and new policies, using a range of delivery platforms, as part of a reengineered Primary Health Care approach. Within this PHC approach the health sector has an important advocacy and information role in relation to other sectors, notably agriculture, rural development, social development, trade and industry, economic affairs and education to maximize the nutritional benefit of actions undertaken by those sectors. It identifies specific strategic focus areas and actions to be undertaken to ensure that nutrition-related actions of the health sector contribute significantly to improving the health, longevity and prosperity of all South Africans.

3 VISION

Optimal nutrition for all people in South Africa.

4 MISSION

To provide high quality and access to evidence-based nutrition services, particularly for women, infants and children, throughout all levels of the health care system.

5 GUIDING PRINCIPLES

- ***Political support***: Nutrition security receives consistent, high level political support and adequate resources.
- ***Empowerment:*** Families and communities are empowered to adopt healthy lifestyles and sound nutritional practices which are culturally and gender sensitive.
- ***A rights-based approach***: The health sector plays a central role in protecting, promoting and realizing the right to adequate nutrition, in the context of other social and economic rights.
- ***A lifecycle approach***: Health sector nutrition services use a lifecycle approach, focusing on the key ‘window of opportunity’ namely pregnancy and the first two years of life (the first 1000 days).
- ***A Continuum of care***: Nutrition services are delivered in an integrated manner, linking community, primary health care and hospital level services.
- ***Focused and Targeted***: Available resources for nutrition are optimally used to implement priority interventions among vulnerable groups and with a particular focus on the most disadvantaged wards, sub-districts, districts and provinces.
- ***Clear accountabilities at different levels***: Accountability for specific functions are assigned to different cadres of health and nutrition workers at national, provincial, district and community levels.

- ***Collaborative***: Nutrition security is addressed through collaborative action among multiple sectors.
- ***Communication***: Effective communication on nutrition is fostered with households and communities, and among all cadres and disciplines.

6 WHO IS THIS ROADMAP FOR?

- Managers and supervisors implementing nutrition and nutrition-related interventions at all levels
- Government departments and Entities with a role to play in contributing to the implementation of nutrition related interventions
- Development partners and Donor agencies
- Institutions of higher learning and research institutes
- Health care personnel at different levels of the health care system

7 OVERALL GOALS

In line with the four outputs of the NSDA, for 2010 to 2014 which are: increasing life expectancy; combating HIV and AIDS; decreasing the burden of disease from Tuberculosis and improving health systems effectiveness, the goals set out by the Nutrition Roadmap are:

- To contribute to increased life expectancy of the entire population by improving the quality, coverage and intensity of specific nutrition interventions that support reduction in mortality rates, especially maternal, neonatal, infant and child mortality;
- To promote optimal growth of children and prevent overweight and obesity later in life, by focusing on optimal infant and young child nutrition;
- To contribute to the prevention, control and treatment of HIV and Tuberculosis through targeted nutritional care and support strategies;
- To contribute to the effective functioning of the health sector, by reducing the demand for curative services and improving recovery rates from diseases, thus freeing up resources for preventive and promotive services
- To empower families and communities to make informed nutrition-related decisions, through advocacy regarding household food security, multisectoral collaboration and effective nutrition education.

To achieve the overall goals of the Roadmap, all nutrition-related actions in the health sectors will be geared towards the implementation of a set of priority nutrition interventions as outlined below. The roadmap proposes making use of a range of delivery platforms, including population-wide communication and market-based strategies as well as community based action, community outreach, clinic-based services and hospital-based services. The proposed strategic approaches are interrelated, and the successful delivery of the priority interventions will require high-level attention to advocacy for the integration of nutrition into relevant sector strategies and

programmes, positioning nutrition strategically within the health sector, and strengthening the human resource base. In all cases, the emphasis is on reaching vulnerable groups with high quality services. The five broad strategic approaches are:

1. Advocacy and technical support for the integration of nutrition into relevant sector strategies and programmes.
2. Positioning nutrition strategically within the health sector at national and provincial levels.
3. Delivering the key nutrition interventions through appropriate action at each of the following levels:
   - 3.1 Population based services, including communication and market-based approaches
   - 3.2 Community based services.
   - 3.3 PHC clinic services.
   - 3.4 Hospital-based services.
4. Strengthening Human Resources to deliver effective nutrition services.
5. Strengthening the information base for effective nutrition services.

The proposed nutrition interventions are presented below, followed by a brief discussion on each of the five strategic approaches. Specific implementation strategies, including indicators and targets will be developed at the appropriate level of service.

8 PRIORITY NUTRITION INTERVENTIONS

Based on a review of the current situation, the literature on evidence-based interventions, and health sector priorities, the following key nutrition interventions are recommended as outlined in Table 1. They need to be implemented as part of comprehensive packages of services at population, community, PHC and hospital levels. [21] Interventions included here are the primary responsibility of the health sector. The health sector also has an important role in advocacy for interventions in other sectors, notably in education, social development, rural development and agriculture.

Table 1: Comprehensive Package of Key Nutritional Interventions

Intervention	Target population	Delivery platform	Existing policies, frameworks, guidelines
Behaviour change interventions			
Exclusive Breast feeding promotion*	Pregnant women and families of children 0-6 months.	Community nutrition programmes; ANC (BANC) – through community outreach, PHC clinic services and through hospital services; Communication campaigns School curricula for grade 10-12,	PMTCT 2010 clinical guidelines(updated) BANC; BFHI IYCF policy IMCI Draft Regulations on marketing of infant foods Nutrition and HIV School Health Services policy Health Promoting Schools initiative
Improved complementary feeding with continued breastfeeding;* **Targeted supplementary feeding where needed**	Pregnant women and families of children under 24 months; Populations with high % of Children 6-23 months with Weight-for-Age (W/A) <2 z-scores	Community nutrition programmes; outreach (CHW) and PHC services; Communication campaigns	IYCF IMCI, GMP
Healthy eating for optimal weight management during pregnancy and lactation	Pregnant women and breastfeeding mothers	Community nutrition programmes; outreach (CHW) and PHC services; Communication campaigns, Pre-schools, schools and communities	BANC, FBDG, School Health Services policy Health Promoting Schools initiative
Implementation of evidence based interventions for detection of malnutrition during pregnancy i.e. MUAC measurement	Pregnant women	ANC – at PHC clinic and hospital services	2007 Guidelines for Maternity Care in SA
Improved hygiene practices including hand washing	Caregivers and families School going children	Community outreach, PHC, hospital services and communication campaigns	IMCI, IYCF Guidelines, health promoting schools initiatives
Nutrition education and information on healthy eating and health risks associated with poor diets.	Entire population, individuals with chronic conditions	Community outreach, PHC, hospital services and communication campaigns	Guidelines on chronic diseases (hypertension, diabetes), FBDG, Food Guide

Micronutrient and deworming programmes			
Vitamin A supplementation*	Twice yearly doses for children 6-59 months	Hospital services, Child health weeks, Routine PHC services and outreach (CHW)	IMCI, GMP, VAS protocol; 2007 Guidelines for Maternity Care in SA
Therapeutic zinc supplementation*	Children 6-59 month with Diarrhoea	Diarrhoea treatment – PHC, hospitals	IMCI Guidelines
Iron folate supplementation (or multiple micronutrients)*	Pregnant women	ANC – at PHC and hospital levels	BANC; 2007 Guidelines for Maternity Care in SA
Calcium Supplementation	Pregnant women	ANC – at PHC and hospital	2007 Guidelines for Maternity Care in SA
Fortification of staples*	Entire Population	Market-based strategy	Fortification regulations
Salt iodization*	Entire population	Market-based strategy	Salt Iodization regulations
Deworming (situational*)	Children 6-59 months	Child Health Weeks, Routine PHC services and outreach	IMCI
Multiple micronutrient supplements and targeted supplementary feeding to undernourished individuals (e.g. those with HIV, TB)	HIV infected individuals Individuals infected with TB Individuals with other chronic and debilitating conditions	Community nutrition programmes, clinic, PHC and hospitals	Nutrition and HIV and AIDS guidelines
Therapeutic feeding			
Treatment of severe acute malnutrition*	Children 6-59 months, with < -3 z-scores W/H (with or without oedema or MUAC <115mm	PHC and district and regional hospitals	WHO 10 Steps to management of severe acute malnutrition
Prevention or treatment for moderate undernutrition	Children 6-59 months, with < -2 z-scores W/H)	Community nutrition programmes, PHC services	WHO CTC Guidelines

**Interventions listed in the Lancet nutrition series as 'sufficient evidence for implementation in all countries'*

9 STRATEGIC APPROACHES

9.1 Strategy 1: Advocate and provide technical support for multisectoral action on nutrition

Nutrition is a multi-sectoral issue and should therefore be included in a range of sector strategies and programmes to address inequity and the social and economic determinants of malnutrition. The health sector plays a key role in the implementation and scale-up of key direct nutrition interventions. In addition, the sector takes leadership in advocating for attention to the social and economic determinants of malnutrition by other sectors, and ensuring that nutrition-related services are harmonized, technically sound, and reaches the most vulnerable populations Nutrition services should feature prominently in Early Childhood Development programmes.

Strategic Objectives

- Advocate for strategies to address the impact of social determinants of nutrition, especially improving access to basic services such as clean water and adequate sanitation; safe environments for physical activity and innovations like incentives for healthy eating and exercise.
- Provide strategic inputs to the agriculture, rural development and social development sectors at all levels (Provincial, District and Local Government) to improve household food security, dietary diversity and women's nutrition and the integration of nutrition in ECD services.
- Advocate for the integration of nutrition education (including education on infant feeding, maternal nutrition, and healthy eating to prevent overweight and obesity) into comprehensive health education in pre-schools, schools and communities.

9.2 Strategy 2: Position nutrition strategically within the health sector

Nutrition interventions should form an integral part of comprehensive primary health care services, including prevention, health promotion, curative and rehabilitative services. Services are provided primarily through clinics, (including outreach services) and through district and hospital services which are organized and managed in geographic areas (districts and provinces) as part of comprehensive MNCWH and Nutrition services. To support the concept of the continuum of MNCWH & Nutrition services, it is important to ensure that nutrition services are fully integrated and adequately resourced, supervised and monitored, so that attention to nutrition is maintained across programmes and among the various levels of care. Other key health care services which require nutrition input include HIV services, TB and chronic disease programmes.

Strategic Objectives

- Integrate core nutrition interventions into the overarching framework for the delivery of MNCWH & Nutrition services.
- Build capacity of Nutrition units at provincial and district with appropriate advocacy skills training and information to ensure that adequate human and financial resources are committed to key nutrition interventions.
- Review current nutrition strategies of HIV &AIDS, TB, MCWH and Chronic Disease units, and provide strategic and technical support to these units to strengthen their nutrition-related activities.

9.3 Strategy 3: Strengthen the implementation of key nutrition interventions at all levels in the health sector

9.3.1 PHC services

Primary health care services are the backbone of the health system, and a dedicated effort is needed to ensure that the core set of nutrition interventions are competently delivered at this level. The coverage and intensity of several nutrition interventions (e.g. routine Vitamin A supplementation for children aged 12 to 59 months, effective growth monitoring and promotion (GMP), infant feeding and maternal nutrition counselling and supplementation) are currently not adequate. In addition to coverage and intensity, programme quality also needs attention.

Strategic Objectives

- Advocate for, and support scale-up of new or existing programmes with low coverage. These include: ANC (using BANC approach), clinic-based baby friendly community initiative, post-natal care, IMCI, as well as school health services, and youth-friendly services.
- Develop and implement models linking maternal and child nutrition assessment at PHC – including anthropometry, rapid dietary assessments, and biochemical measures as needed) – and develop specific messages for counseling on feeding and dietary practices for different age groups and disease conditions.
- Ensure that the nutrition components (notably dietary counselling, calcium supplementation, iron and folate supplementation of pregnant women, breast feeding and complementary feeding support, GMP, Vitamin A supplementation, and therapeutic zinc supplementation) of key programme strategies are well defined, and that guidelines and key messages, norms and standards are widely available and used.
- Increase access to appropriate nutritional assessment, support and care for people living with HIV and TB, and provide counselling on diet and exercise to prevent and control diet-related chronic diseases.

- Advocate for, and support regular supportive supervision of PHC facilities and ensure that the nutrition components of PHC programmes receive adequate attention during supervision, by developing appropriate supervision tools, and integrating nutrition supervision tools into already existing tools.
- Develop and implement strategies referral to health care facilities (particularly for treatment of SAM) and for household level follow up as required. This includes strengthening linkages between PHC nutrition services and community support systems such as community health workers.

9.3.2 Community-based services

In the framework for community-based MNCWH&N interventions it is envisaged that most of the core activities would be provided by generalist CHWs (or existing community-based workers) who are part of population-based PHC teams to be established as part of the process of restructuring and revitalizing primary health care. To ensure that the proposed community-based approach will result in improved nutritional status for mothers and children, appropriate training on nutrition and feeding practices and supportive supervision will be required. The proposed direct nutrition interventions and delivery modes during pregnancy, the post-natal period and during infancy and childhood are outlined in Table 2.

Strategic Objectives

- Advocate for access to programmes addressing access to clean water, sanitation, food security (including efforts to improve access to social grants) and physical activity by vulnerable groups.
- Develop guidelines, tools and indicators to support community-based nutrition action.
- Ensure that key nutrition interventions in community based programmes (HHCC of IMCI, RED Strategy) are incorporated in comprehensive CHW and ECD programmes.

Table 2: Community-based Nutrition Interventions and their Delivery Modes

	Pregnancy	Postnatal	Infancy/childhood
Key nutrition interventions	• Nutritional assessment of pregnant women • Maternal nutrition through BANC – including iron-folate and calcium supplementation and education on maternal diet; • Counselling on appropriate infant feeding practices. Counselling on Newborn and child care including appropriate infant and young child feeding	• Nutritional assessment of post-partum mothers and maternal nutritional counselling • Counselling and support for early initiation and exclusive breast feeding • High-dose Vitamin A supplementation for 6 to 59 months children • Appropriate management of breast conditions	• Nutritional assessment of infants • Counselling on IYCF/EBF, maternal nutrition • Ensuring that preventative services are accessed: notably vitamin A, deworming, growth monitoring linked to counselling on IYCF
Home Visits by CHW	• 4 – 6 visits	• 4 visits: 2 days, 7 days, 14 days and 6 weeks	• Monthly visits until 6 months of age • 9 months and 12 months –3-monthly visits • 1- 5 years – 6 monthly visits
Outreach services			• Should be conducted twice a year as a targeted strategy to reach children who do not benefit from routine services and where large coverage gaps in EPI, GMP, vitamin A supplementation and deworming exist
Support groups	• All facilities to have support groups for pregnant women and breast feeding mothers and, care givers of children 0-24 months • All facilities to develop and implement plans for monthly meetings of CHWs and support group leaders • Counselling and experience sharing on IYCF/EBF, PMTCT and maternal nutrition, including practical feeding demonstrations.		
Support to ECD centres	• Regular meetings with ECD facilitators and using ECD centres to identify and monitor growth and advise on feeding menus and practices and health in children and to identify vulnerable children.		

9.3.3 Hospital based services

From a nutrition perspective, priority needs to be given to infant feeding counselling and support to all pregnant women and post partum mothers, Vitamin A supplementation (particularly high-dose supplementation of mothers post partum) and treatment of severe acute malnutrition.

Strategic Objectives

- Improve the quality of hospital-based nutrition services (clinical and food services) through the provision of protocols, training of health care workers in the core package of nutrition interventions
- Strengthen supportive supervision through an outreach strategy by utilizing the services of dieticians and nutritionists efficiently.
- Strengthen and scale up the prevention and treatment of severe acute malnutrition and the nutritional management of sick children in district and regional hospitals, using standardized protocols (WHO 10 Steps on the management of severe and acute malnutrition).
- Provide adequate nutritional care and support for people living with HIV & AIDS, and TB

9.3.4 Population based services, including market-based strategies

Greater awareness of the nature of the malnutrition problem in South Africa, and of the contribution of sound nutrition to health, wellbeing and national prosperity will help to develop popular support for the nutrition strategy, and stimulate demand for quality nutrition services. It should help to broaden the focus beyond a food-based approach, in which nutrition is equated with hand-outs and gardening, to include a more comprehensive set of proven cost-effective interventions, household practices and government programs that promote good nutrition throughout the life cycle.

Given South Africa's well-developed private sector, and experience gained through the food fortification and salt iodization programme, more consideration should be given to utilizing market-based strategies to support priority nutrition goals. The role of the food sector, with regard to implementation of regulations on food labelling, and responsible marketing to children, should also be highlighted.

Strategic Objectives

- Incorporate messages on core nutrition practices in a range of government communications with households and communities.
- Develop nutrition messages to reach opinion leaders at all levels with targeted messages regarding the focus of the nutrition strategy, and its potential contribution to national development and prosperity.

- Continue to work with the food industry to strengthen implementation of nutrition related interventions such as food fortification programme, and explore additional ways in which the private sector can participate in reaching the goals of the nutrition strategy, in line with government policies and priorities.
- Strengthen the monitoring and reporting system for fortification programmes.

9.4 Strategy 4: Strengthen the human resource capacity for the delivery of nutrition services

Human resource development is central to the success of the Nutrition strategy. Staffing norms and standards, skills requirements, and plans for training and retraining of health staff must be developed. A multidisciplinary approach to train health personnel in nutrition will help in overcoming barriers to participation in training and implementation of nutrition-related activities in practice. It will be important to ensure that nutrition is represented on the proposed PHC teams which are to be established in support of the PHC system. Their roles and functions should be clearly defined and communicated to other team members and nutrition-related cadres at all levels.

Strategic Objectives

- Develop a comprehensive human resource plan for nutrition in the health sector.
- Ensure that all categories of health staff receive adequate pre-service and in-service training in nutrition to meet the requirements of the HR plan (curricula of health professionals should be regularly updated to ensure adequate pre-service training in nutrition).
- Liaise closely with the Professional Board for Dietetics and Nutrition of the Health Professions Council of South Africa (HPCSA) as well as higher education institutions to ensure that the academic training of nutrition professionals are in line with the nutrition priorities of the country

9.5 Strategy 5: Strengthen the information base for effective nutrition services

Systems for monitoring and evaluation at all levels of the health system need to be strengthened and implemented, and information generated through these activities needs to be used to inform decision making at all levels. Information needs regarding nutrition require particular attention, and the feasibility of implementing a nutrition surveillance system should be investigated. A research agenda responsive to the national nutrition priorities is important in establishing an evidence-based culture for decision-making. Where research funds are derived from national public sources a government-led research agenda should inform the selection of priority research focus areas.[69]

Strategic Objectives

- Review and agree on key indicators, how and how frequently information should be gathered on each, and how information should be reported and used.
- Develop a monitoring and evaluation framework for the strategy. The plan should provide for monitoring trends in key nutrition indicators and sharing the information across the system and with key stakeholders. Where necessary, strengthen the collection, collation, analysis, interpretation and release of data, and the timely dissemination of information.
- Assess the feasibility of a national nutrition surveillance system for the country and explore implementation of community-based information systems.
- Develop, in collaboration with research institutions and development partners, a national agenda for research on current and emerging nutrition challenges. Create mechanisms to systematize and share information generated through research and evaluation activities, and build consensus on evidence, key message and research priorities.

10 IMPLEMENTING THE ROADMAP

Overall accountability for the implementation of the nutrition roadmap will be the responsibility of the Nutrition Directorate in the National Department of health. A summarized implementation matrix is presented in **Appendix A**. The matrix indicates the critical interventions or actions that must be undertaken according to the specified timeframes in order to successfully implement the nutrition strategy. For each intervention and/or action, lead agencies are identified (highlighted in the table in the Appendix) together with the main link agencies. However, detailed work-plans and the accompanying budgets will be prepared by Provinces and the Districts.

11 MONITORING AND EVALUATION

A list of core nutrition indicators is attached in **Appendix B**. a comprehensive monitoring and evaluation plan will be developed to monitor the implementation of nutritional interventions.

Appendix A: Implementation Matrix

Strategies	Objectives	Interventions	Outputs	Timeframe	Responsibility	Partners
Strategy 1 **Advocate for multi-sectoral action to address inequity and the social determinants of malnutrition**	Advocate for strategies and programmes by other sectors to address the social determinants of nutrition, especially improved access to basic services such as clean water and adequate sanitation.	Support sector strategies and district plans to reach targets for access to clean water and adequate sanitation	Advocacy events conducted	2013	NDOH Provinces Districts	DWAF, DBE, DSD and GCIS
	Provide strategic inputs to other sectors to improve household food security, dietary diversity and nutrition for women and children.	Incorporate nutrition targets and activities in IDPs and district health, agriculture, rural development and social development plans	Priority nutritional interventions included in the food security strategy Nutrition incorporated into IDPs, districts plans of various departments	2013-2014	National Provinces Districts	DAFF, DRD, DSD, National Planning commission
	Advocate for the integration of nutrition education into comprehensive health education in pre-schools, schools and communities.	Incorporate nutrition into health-promoting schools Development of a SA Food Guide Reviewed evidence and updated SA Food Based Dietary Guidelines	School curriculum updated with evidence based nutrition information based on updated food based dietary guidelines	2013	National Provinces Districts	Dept. of Basic Education

Strategies	Objectives	Interventions	Outputs	Timeframe	Responsibility	Partners
	Foster partnerships on nutrition with other role players at all levels	Establish multisectoral stakeholder forums on nutrition at national, provincial, and district levels and participate actively in forums discussing nutrition	Nutrition working groups established at National, Provincial and district level	2013	National Provinces Districts	Development Partners, Other sectors, National Planning commission
Strategy 2 **Ensure that nutrition is integrated into a coordinated framework for MNCWH & Nutrition service delivery**	Ensure that key nutrition interventions in community based programmes (HHCC of IMCI, RED Strategy, Health promotion) are incorporated in comprehensive CHW programmes.	Support the integration of key nutritional interventions into MNCWH N Implementation plans	Priority Nutrition interventions integrated into the MNCWHN implementation plans	2013	NDOH	Development partners
	Ensure that nutrition resources (human and financial) are committed to key nutrition interventions.	Advocate for inclusion of nutrition related interventions into the DHP and National and Provincial APPs.	District Health Plans (DHP) and the Annual Performance Plans (APP) include nutrition services	2013	National Provinces Districts	Development partners

Strategies	Objectives	Interventions	Outputs	Timeframe	Responsibility	Partners
Sub-Strategy 2.1 ***Strengthen community-based nutrition action***	Ensure that the core nutrition strategies are clearly defined and integrated into the PHC package	Define nutrition services, (including norms and standards) to be delivered at each of the following levels: • Community • PHC • District hospitals	Nutrition package for CHW Norms and standards developed for nutrition services at each level of service	2013	NDOH Provinces	Development partners
	Where needed, provide Vitamin A services through community-based campaigns or outreach services to close the coverage gap	Plan and implement outreach services in order to reach hard-to-reach populations with core nutrition and health interventions, including Vitamin A	Outreach services	2013-2016	NDOH Provinces Districts	Development partners
	Scale-up infant and young child nutrition and caring practices related interventions at the community level	Develop a comprehensive implementation and communication plan to scale up infant and young child nutrition and caring practices at the community level	Implementation plans on IYCN Communication plan	2013	NDOH Provinces Districts	Development partners Department of Communication
	Ensure that community-based programmes for people affected by HIV and TB provide adequate nutritional care and support	Develop and disseminate guidelines on integration of community based nutrition support and care for people living with HIV and TB	Guidelines developed and disseminated	2013	NDOH	Development partners

Strategies	Objectives	Interventions	Outputs	Timeframe	Responsibility	Partners
	Contribute to the reduction of non-communicable disease through advocating for healthy eating in various community-based campaigns	Develop healthy eating messages to be incorporated into various community-based campaigns and interventions.	Healthy eating messages developed			
	Advocate for, participate in, and strengthen specific intersectoral community actions that contribute to achieving nutrition goals – in particular programmes addressing access to clean water, sanitation, and food security (including social grants).	Support and scale up effective intersectoral programmes addressing the underlying causes of malnutrition	Advocacy plan	2013	NDOH Provinces	Development partners
	Foster partnerships with community structures and non-governmental organizations.	Develop appropriate local forums for dialogue and joint action on nutrition at community level	Local nutrition forums established	2013-2014	Provinces Districts	Development partners

Strategies	Objectives	Interventions	Outputs	Timeframe	Responsibility	Partners
Sub-Strategy 2.2 ***Scale-up provision of key nutrition interventions at PHC facilities and district levels***	Ensure that the nutrition components of key nutritional interventions are well defined, and that guidelines, norms and standards are widely available and used in programmes. • Calcium supplementation of pregnant women; • Iron and folate supplementation of pregnant women; • Breast feeding and complementary feeding (IYCF policy), • GMP, • Vitamin A supplementation, • Zinc supplementation • Access to iodized salt in high risk areas • Nutrition education	Develop, update and disseminate guidelines, norms and standards on key nutrition interventions and support their implementation;	Guidelines on key nutritional interventions updated, developed and disseminated	2013	National Provinces	Development partners
	Improve infant feeding practices with specific reference to protection, promotion and support of breastfeeding	Develop, update and disseminate guidelines, norms and standards on interventions geared towards improving breastfeeding practices	Policies and guidelines updated and developed Regulation finalized Training materials standardized Toolkits and BCC materials developed	2013-2016	National Provinces Districts	Development partners DPSA Department of Labour

Strategies	Objectives	Interventions	Outputs	Timeframe	Responsibility	Partners
	Increase access to nutritional support and care for people living with HIV&AIDS and TB	Update protocols, norms and standards for the provision of adequate nutritional support .	Updated protocols Norms and standards	2013	National Provinces Districts	Development partners
	Advocate for regular supportive supervision of PHC facilities and ensure that the nutrition components of PHC programmes receive adequate attention during supervision.	Develop guidelines and norms for supervising the nutrition component of PHC and community-based programmes	Supervision and mentorship guidelines incorporated into the PHC supervisor manual	2013	National	
Sub-Strategy 2.3 ***Scale-up provision of key nutrition interventions at district and regional hospital level***	Strengthen and scale up the prevention and treatment of severe acute malnutrition and the nutritional management of sick children in district and regional hospitals, using standardized protocols.	Build capacity of health personnel (including paediatricians, registrars, nursing staff and dieticians) on the prevention and treatment of SAM in hospital settings. Strengthen the prevention and treatment interventions of moderate malnutrition using the CTC approach.	Protocol on SAM. Training reports Training materials. Guidelines on MAM developed.	2013	NDOH Provinces Districts	Development partners

Strategies	Objectives	Interventions	Outputs	Timeframe	Responsibility	Partners
	Improve the quality of hospital-based nutrition services	Develop and disseminate protocols/ norms and standards/ guidelines on hospital-based nutrition services; Train health care workers in the core package of nutrition interventions; Scale-up the implementation of MBFI Strengthen supportive supervision through an outreach strategy, involving dieticians and nutritionists Facilitate the establishment of Human Milk Banks in health care facilities	KMC guidelines MBFI operational manual Food service management policy Dietetics norms and standards Human Milk Banks guidelines and Frameworks developed	2013	NDOH Provinces	Tertiary institutions Development partners

Strategies	Objectives	Interventions	Outputs	Timeframe	Responsibility	Partners
Strategy 3 **Strengthen the capacity of the health system to support the provision of Nutrition services**	Ensure that adequate equipment for delivery of nutrition services is available.	Participate in the development of norms and standards for equipment at PHC and hospital levels, to ensure appropriate nutrition equipment is available	Equipment norms and standards document	2013	NDOH Hospital services	Hospital services
	Ensure that essential nutrition supplies are available at PHC and district hospital levels	Strengthen the procurement system to ensure that facilities have adequate supplies at all times Develop specifications for essential nutrition supplies	Essential nutrition supplies list Specifications on Nutritional products developed	2013-2014	NDOH Provinces National Treasury	
	Strengthen the incorporation of nutrition data in routine health information systems and ensure that the information is used for decision making at all levels	Review nutrition indicators in the DHIS Capacitate managers on the use of nutrition data for decision making purposes	Monitoring and Evaluation Plan	2013	NDOH Provinces	Development partners Research Institutions

Strategies	Objectives	Interventions	Outputs	Timeframe	Responsibility	Partners
Strategy 4 **Strengthen the human resource capacity for the delivery of nutrition services**	Develop and implement a human resource plan for nutrition	Develop norms for the human resources required to deliver nutrition services at all levels. Define the nutrition-relevant roles and functions of the different cadres of health workers, including doctors, dietitians and nutritionists, registered nurses, enrolled nurses, enrolled nursing assistants and mid-level workers and CHWs	Human resources plan	2013-2014	NDOH Provinces Districts	Human Resources unit
	Ensure that all categories of health staff receive adequate pre-service and in-service training in nutrition to meet the requirements of the HR plan	Update curricula of health professionals to ensure adequate pre-service training in nutrition; covering the key nutrition interventions.	Curriculum updated	2013-2014	NDOH	Tertiary institutions

Strategies	Objectives	Interventions	Outputs	Timeframe	Responsibility	Partners
Strategy 5 **Strengthen systems for monitoring and evaluation of Nutrition interventions and outcomes**	Monitor trends in key nutrition indicators and share the information across the system and with key stakeholders	Define key nutrition outcome indicators and how regularly data will be collected. Ensure that data are collected, analyzed and reported on a regular basis.	Monitoring and Evaluation plan	2013	NDOH	Development partners
	Strengthen surveillance and monitoring of high risk areas for iodine deficiency	Strengthen surveillance and take action to address IDD where it occurs	Compliance monitoring system in place and reporting of outcomes and corrective measures	2013	NDOH Provinces	MRC
	Develop, in collaboration with national and international research institutions, a strategy to evaluate the implementation of key components of the nutrition strategy at regular intervals.	Develop an evaluation plan for the key components of the nutrition strategy	Evaluation plan	2013	NDOH	Development partners
	Develop, in collaboration with research institutions and development partners, a national agenda for research on current and emerging nutrition challenges.	National Research agenda	Research priority list	2013-2016	NDOH Provinces Districts	Tertiary institutions Development partners Research institutions (MRC, CSIR, HSRC)

Appendix B: Core Nutrition Indicators

Indicator	Definition	Rationale	Type of Indicator	Baseline Values	Target 2016	Data Source	Frequency of collection	Level of disaggregation
Proportion of stunted children below age five (< 2yrs and 2-5yrs)	Height-for-age < –2 standard deviations (SD) of the WHO Child Growth Standards median	Stunting is the result of long-term nutritional deprivation (chronic undernutrition) and often results in delayed mental development, poor school performance and reduced intellectual capacity.	Outcome	Overall stunting 18% 1-3 yrs: 23.4 4-6 yrs: 16.4 7-9 yrs: 12 (NFCS 2005)	12%	SANHANES	5 yearly through surveys	National, Province, District
Proportion of wasted children below age five (< 2yrs and 2-5yrs)	Weight-for-height < –2 standard deviations (SD) of the WHO Child Growth Standards median	Wasting in children is a reflection of acute undernutrition, usually as a consequence of insufficient food intake and/ or a high incidence of infectious diseases, especially diarrhoea.	Outcome	4.5% 1-3 yrs:5.1 4-6 yrs: 5.0 7-9 yrs: 3.0 (NFCS 2005)	2%	SANHANES DHIS	Half-Yearly from DHIS Five-yearly from surveys	National, Province, District
Proportion of women in reproductive age with Hb<11 g/dL	Pregnant women with Hb < 11 g/dL at sea level - Non-pregnant women (age 15+ yrs) as Hb < 12 g/dL at sea level	Anaemia is associated with increased risks of maternal mortality. Iron-deficiency anaemia is the most prevalent micronutrient deficiency that reduces the work capacity of individuals and entire populations, with serious consequences for the economy and national development.	Outcome	Non-pregnant women – 10.5% No baseline values for pregnant women	To be determined	SANHANES	5 yearly through surveys	National, Province, District

Indicator	Definition	Rationale	Type of Indicator	Baseline Values	Target 2016	Data Source	Frequency of collection	Level of disaggregation
Incidence of low birthweight	Weight at birth of < 2500 grams (5.5 pounds)	At population level, the proportion of infants with a low birth weight is an indicator of a multifaceted public health problem that includes long-term maternal malnutrition, ill health, laborious work and poor health care in pregnancy.	Outcome	15.5% DHIS (2010)	10%	SANHANES PPIP DHIS	Annually	National, Province, District
Proportion of overweight children below age five (< 2yrs and 2-5yrs)	Weight-for-height > +2 standard deviations (SD) of the WHO Child Growth Standards median	Childhood overweight is associated with a higher probability of overweight in adulthood, which can lead to a variety of disabilities and diseases, such as diabetes and cardiovascular diseases.	Outcome	14.0 1-3 yrs: 19.3 3-6 yrs: 10.9 7-9 yrs:10.3 (NFCS 2005, overweight and obesity combined)	10%	SANHANES	5-yearly surveys	National Province
Proportion of population below minimum level of dietary energy consumption	This is a measure of food deprivation, referred to as the prevalence of undernourishment and it is based on a comparison of usual food consumption expressed in terms of dietary energy kcal) with minimum energy requirement norms.	The indicator is a measure of an important aspect of food insecurity in a population.	Outcome	No baseline data	To be determined	SANHANES	5-yearly surveys	National

Indicator	Definition	Rationale	Type of Indicator	Baseline Values	Target 2016	Data Source	Frequency of collection	Level of disaggregation
	The part of the population with food consumption below the minimum energy requirement is considered underfed.							
Proportion of Infants under 6 months who are exclusively breastfed	It is the proportion of infants aged 0–6 months who are fed exclusively on breastmilk	An expert review of evidence showed that, on a population basis, exclusive breastfeeding for 6 months is the optimal way of feeding infants. Thereafter, infants should receive complementary foods with continued breastfeeding up to 2 years of age or beyond.	Outcome	8% (DHS 2003) 26% (HSRC 2009)	40% at 6 months 75% children 0-6 months	SANHANES	5-yearly Surveys	National Provincial
Babies exclusively breastfed at 14 weeks rate	Babies who were reported to have been exclusively breastfed at their 14 week EPI visit for hepatitis B vaccine 3rd dose.	Exclusive breastfeeding should be promoted for the first six months of life. This gives an indication of infant feeding practices at 14 weeks post delivery. Mothers should be encouraged to exclusively breastfeed up to 6 months.	Outcome	No baseline	60%	PHC Tick Registers	Monthly	District Provinces National

Indicator	Definition	Rationale	Type of Indicator	Baseline Values	Target 2016	Data Source	Frequency of collection	Level of disaggregation
Proportion of children 6-23 months who receive a minimum acceptable diet	The composite indicator is calculated from: the proportion of breastfed children aged 6–23 months who had at least the minimum dietary diversity composed of three groupings of food and an iron rich and, the proportion of non-breastfed children aged 6–23 months who received at least two milk feedings and had at least the minimum dietary diversity not including milk feeds and the minimum meal frequency during the previous day.	A minimum acceptable diet is essential to ensure appropriate growth and development of infants and young children. Without adequate diversity and meal frequency, infants and young children are vulnerable to malnutrition, especially stunting and micronutrient deficiencies, and to increased morbidity and mortality.	Outcome	No baseline data		SANHANES	5-yearly surveys	National Provinces
Proportion of People Living with HIV nutritionally assessed using anthropometric measurement that were found	This indicator measures all clients living with HIV and distinguishes those who are found to be undernourished from those that are well nourished. Clients are	Nutritional status affects the progression of the HIV infection and the infection negatively affects the nutritional status of the patient because it depletes the body's nutrient stores. A good nutritional status is	Outcome	No baseline	90%	DHIS	Quarterly	Province District Facility

Indicator	Definition	Rationale	Type of Indicator	Baseline Values	Target 2016	Data Source	Frequency of collection	Level of disaggregation
to be undernourished and provided with nutritional support at any point during the reporting period.	assessed for their nutritional status using anthropometric measurement.	related to the delayed progression of the infection to the AIDS stage. Therefore, nutrition plays an integral role in the management of the disease. Malnutrition, accelerates the progression of the infection, and can lead to secondary immunodeficiency that increases the patient's susceptibility to infection. Stabilizing and maintaining a good nutritional status is therefore essential in the management of HIV & AIDS						
Proportion of children aged 6 to 59 years who have received two doses of Vitamin A supplements	Two Vitamin A doses of 200,000 units given to children between 12 and 59 months every six months, and a dose of 100 000 units given to children between 6 to 11 months	Vitamin A deficiency is a major contributor to child mortality and it also raises significantly the risk of maternal death. Elimination of vitamin A deficiency as a public health programme must be a principal element of child survival and maternal survival programmes where the problem exists. Vitamin A not only plays a role in health of the eyes but it has been shown to be vital for child survival.	Output	42% DHIS [12-59 months children, (Children who received one dose)]	12 to 59 months - 80% 6 to 11 months - 90%	DHIS	Quarterly	National Province District Facility

Indicator	Definition	Rationale	Type of Indicator	Baseline Values	Target 2016	Data Source	Frequency of collection	Level of disaggregation
		Deaths from measles and diarrhoea can be reduced by 50% and 40% respectively, and overall mortality can be reduced by 25 percent. Thus by Improving vitamin A status of children with vitamin A deficiency increases their chances of survival.						

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ANNEXURE 1:

Table 1: Anthropometric status of children in South Africa by Province, 1994, 1999 and 2005

Indicator	Survey year	EC	FS	GP	KZN	MP	NC	LP	NW	WC	National
Stunting (% H/A <-2SDs)	*1994*[70]	29%	29%	12%	16%	20%	23%	34%	25%	12%	**23%**
	1999	21%	30%	20%	19%	26%	30%	23%	25%	15%	**22%**
	2005 (1-9 years)	18%	28.2%	16.8%	15.1%	17.8%	27.7%	23.8%	15.1%	12%	**18%**
Wasting (%W/H<-2SDs)	*1994*	3%	5%	1%	1%	2%	3%	4%	5%	1%	**3%**
	1999	2%	3%	1%	4%	3%	10%	8%	6%	1%	**4%**
	2005 (1-9 years)	4.1%	2.8%	3.3%	1.3%	7.5%	19.1%	4.4%	3.2%	11.5%	**4.5%**
Underweight (%W/A<-2SDs)	*1994*	11%	14%	6%	4%	7%	16%	13%	13%	7%	**9%**
	1999	7%	14%	9%	6%	4%	24%	15%	15%	8%	**10%**
	2005 (1-9 years)	7.8%	14.1%	6.4%	5%	10.9%	38.3%	12.3%	12.4%	8.2%	**9.3%**
Overweight (%W/H>+2SDs)	*1999*	8%	6%	6%	7%	17%	4%	4%	1%	5%	**6%**
	2005 (1-9 years)	6.1%	1.4%	6.4%	6.3%	3.4%	-	2.4%	4.9%	3.3%	**4.8%**

Note: Shaded areas (red) in Table 1 indicate a prevalence of moderate to high public health significance according to WHO standards for stunting >20%, for underweight >10% and for wasting >5%. Classification for overweight in children has not been established

Table 2: Biochemical status of children in South Africa by Province, 1994 and 2005

Indicator	Survey year	EC	FS	GP	KZN	MP	NC	LP	NW	WC	National
Inadequate vitamin A status (<20ug/dL)	*1994*	31.1%	26.8%	23.5%	38%	33%	18.5%	43.5%	32%	21%	33.3%
	2005	64.2%	61.7%	65.2%	88.9%	52.1%	23%	75.7%	49.6%	43.5%	63.6%
Anaemia (Hb,11g/Dl <60 months) (Hb<11.5g/dL >60 months)	*1994*	20.6%	17.1%	16.3%	10.4%	27.7%	21.5%	34.2%	24.5%	28.6%	21.4%
	2005	30.3%	22%	26.6%	21.7%	25%	11.1%	34.1%	28.1%	38%	27.9%
Zinc deficiency (%Zinc<65ug/Dl)	*2005*	35%	43.9%	36.7%	-	27.3%	-	27.3%	41.1%	58.5%	45.3%

Note: Shaded areas(red) indicate prevalence at a level of high public health significance according to international standards for Vitamin A (>20%), Iron (>40%) and Zinc (>20%).

Department of Health – 2013
ISBN: 978-1-920031-75-6
www.doh.gov.za