Malnutrition, in any form, presents significant threats to human health. Undernutrition contributes to about one third of all child deaths. Growing rates of overweight and obesity worldwide are associated with a rise in chronic diseases such as cancer, cardiovascular disease and diabetes.

The World Health Assembly has adopted a Comprehensive Implementation Plan to achieve six global nutrition targets through direct nutrition interventions and multisectoral actions in the food system, education and social protection: reducing low birth weight; stunting, wasting and overweight in children; and anaemia in women by 2025.

The WHO Department of Nutrition for Health and Development is

- developing guidance on population dietary goals and evidence-informed policies and programmes;
- disseminating and advocating for the adoption of evidence-informed policies and programmes and support country adaptation;
- monitoring global trends in nutrition and supporting surveillance in countries.

**Flagship products of the Department of Nutrition for Health and Development**

The electronic Library of Evidence for Nutrition Action (eLENA)  

The child growth standards  

The nutrition databases  
http://www.who.int/nutrition/databases/en/

Nutrition publications  
http://www.who.int/nutrition/publications/en/

**Department of Nutrition for Health and Development (NHD)**

- Director’s office (NHD)
  - Growth Assessment and Surveillance (GRS)
  - Evidence and Programme Guidance (EPG)
  - Nutrition Policy and Scientific Advice (NPU)
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The Department of Nutrition for Health and Development: Evidence and Programme Guidance team

Department of Nutrition for Health and Development collaborators

Centers for Disease Control and Prevention (CDC)

Micronutrient Initiative

The Eunice Kennedy Shriver National Institute of Child Health and Human Development

United States Department of Agriculture, Western Human Nutrition Center

University of Wisconsin – Madison

Cochrane Collaboration

Grading of Recommendations Assessment, Development and Evaluation (GRADE) working group

Internships

Financial support

WHO memberships

WHO nutrition seminars series hosted by the Evidence and Programme Guidance Unit

Birth defects prevention: global efforts

Why calories count: from science to politics

Healthier babies worldwide: partnership for neural tube defect prevention

and Beyond prevention – care and support for children with birth anomalies

Making breastfeeding a public health priority in the United States

Food and nutrition research of bio-fortified staple crops – from farm to fork to cell

Public health interventions and biologically heterogeneous human populations:

nutrition and prevention of congenital anomalies

Supporting best practices and scaling-up home fortification:

The Home Fortification Technical Advisory Group (HF-TAG)

References
# ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>CDC</td>
<td>US Centers for Disease Control and Prevention</td>
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<tr>
<td>GRADE</td>
<td>Grading of Recommendations Assessment, Development and Evaluation</td>
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<td>ICBDSR</td>
<td>International Clearinghouse for Birth Defects Surveillance and Research</td>
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<td>PAHO</td>
<td>Pan-American Health Organization</td>
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<td>TB</td>
<td>tuberculosis</td>
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<td>UNICEF</td>
<td>United Nations Children's Fund</td>
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<td>US</td>
<td>United States</td>
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<tr>
<td>USA</td>
<td>United States of America</td>
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<tr>
<td>VMNIS</td>
<td>Vitamin and Mineral Nutrition Information System</td>
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<td>WHO</td>
<td>World Health Organization</td>
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</table>
During this biennium, the former Micronutrients Unit and the Nutrition in the Life Course Unit merged into a new unit, the Evidence and Programme Guidance Unit. The mission of this new unit is to support Member States and their partners in successfully designing and implementing effective strategies for the achievement of optimal nutrition in their population, using evidence-informed policy options and best practices in stable and emergency settings. As shown in the subsequent pages, the breadth and scope of our activities increased as a result of this merger.

During 2012–2013, major efforts in World Health Organization (WHO) headquarters, in collaboration with WHO regions, were focused on strengthening the process for developing and updating evidence-informed guidelines for nutrition interventions, as well as updating the Vitamin and Mineral Nutrition Information System (VMNIS). Work continued on retrieving, summarizing and assessing the evidence to inform the normative work of WHO in nutrition, and efforts were made to incorporate state-of-the-art methods for improving the quality of the reviews and to broaden their scope to incorporate programmatic experiences. New tools and resources were developed to support Member States and their partners in successfully implementing effective nutrition actions in stable and emergency settings.

An eCatalogue of indicators for micronutrient programmes, the WHO/CDC (United States [US] Centers for Disease Control and Prevention) logic model for micronutrient interventions in public health, and the WHO global directory of laboratory capacity for assessment of micronutrients are among some of these new resources on which the Department of Nutrition for Health and Development made progress during this biennium. Some are already available on the WHO website.

In 2012–2013, the Department of Nutrition for Health and Development strengthened its role in providing evidence-informed policy and programme guidance for nutrition actions to Member States, by establishing a new guideline development group – nutrition actions, to assist in the update or development of guidelines for nutrition interventions. The document Essential nutrition actions: improving maternal, newborn, infant and young child health and nutrition (1) was published to provide a compilation of WHO guidance on nutrition interventions targeting the first 1000 days of life. Policy-makers can utilize this information when considering essential nutrition actions for reducing infant and child mortality, improving physical and mental growth and development, and improving productivity.

WHO released new guidelines for the management of almost 20 million children aged under 5 years worldwide who have severe acute malnutrition
In addition, WHO released new guidelines for the management of almost 20 million children aged under 5 years of age worldwide who have severe acute malnutrition. The WHO guideline *Updates on the management of severe acute malnutrition in infants and children* (2) recommends that children with severe acute malnutrition who do not have health complications requiring hospitalization receive special nutrient-rich food and antibiotics to treat infections. This allows them to recover at home with their families. The document also includes guidance on how to treat these children if they also have HIV, and it provides recommendations on how to treat severely malnourished infants under 6 months of age.

During this period, WHO also published guidelines on *nutritional care and support for patients with tuberculosis (TB)* (3). In addition, the guidelines on iron supplementation for postpartum women and on optimal blood folate levels were discussed.

Research studies on the biological mechanisms through which neonatal vitamin A supplementation can potentially have an impact on infant survival when given at birth were initiated in 2010 and are near completion.

In the area of infant and young child feeding, the World Breastfeeding Week was celebrated by WHO from 1 to 7 August 2013, in more than 170 countries, to encourage breastfeeding and improve the health of babies around the world. It commemorates the *Innocenti Declaration* (4) made by WHO and the United Nations Children’s Fund (UNICEF) in August 1990 to protect, promote and support breastfeeding.

The implementation and enforcement of the *International Code of Marketing of Breast-milk Substitutes* (5) and subsequent relevant Health Assembly Resolutions (the Code) are critical for an environment that supports proper infant and young child feeding and for the attainment of Millennium Development Goal 4 (reduce child mortality). The *Country implementation of the International Code of Marketing of Breast-milk Substitutes: Status Report 2011* (6) summarizes the progress countries have made in implementing the Code and is based on data received from WHO Member States between 2008 and 2010 and on information for 2011 from UNICEF. Only 37 of the 199 countries (19%) reporting to WHO on implementation of the Code have passed laws reflecting all of its recommendations.

It has been a biennium of many challenges and rewards. The Evidence and Programme Guidance team would like to thank all their internal and external partners for their support to its work. This report shares some of our joint achievements.
Peer review and publication in scientific journals helps ensure that sound methods are appropriately utilized in the development of guidelines. They serve as a means of quality control, a term that also includes the transparency and repeatability of research for independent verification, the validity of the conclusions and interpretations drawn from the reported data, the overall importance for advancement within the field of nutrition and public health, and novelty, as well as applicability.

The WHO guideline development process (7) calls for a systematic review of the evidence related to a particular intervention undergoing evaluation. For nutrition actions, technical staff from the Department of Nutrition for Health and Development have prepared many of these systematic reviews, while WHO has commissioned the Cochrane Collaboration or other expert authors to complete reviews. As part of the Cochrane pre-publication editorial process, protocols and reviews are commented on by external peers (an editor and two referees external to the editorial team) and the group’s statistical adviser (8) before publication. The Cochrane handbook for systematic reviews of interventions (9) describes in detail the process of preparing and maintaining Cochrane systematic reviews on the effects of health-care interventions.

The following scientific publications were authored or co-authored by technical staff from the Evidence and Programme Guidance Unit:

**2012**


The Evidence and Programme Guidance Unit also commissioned several reviews on moderate acute malnutrition and nine reviews on severe acute malnutrition (10–24), and also supported three Cochrane reviews on food fortification of staple foods, nine narrative reviews on rice fortification and nine narrative reviews on maize flours and corn meal fortification.

Two special supplements of Annals of the New York Academy of Sciences will include the background papers and the final considerations of two consultations on maize flour and corn meal fortification in public health and rice fortification in public health (see Meetings, p.8). Following the WHO policy on open access, these articles will be published as open access, with immediate, online, free availability for readership. WHO has a mandate for an open-access policy. Access to knowledge is enshrined in the WHO Constitution: “The extension to all peoples of the benefits of medical, psychological and related knowledge is essential to the fullest attainment of health” (25).
A WHO guideline is any document containing WHO recommendations about health interventions, whether they are clinical, public health or policy interventions. A recommendation provides information about what policy-makers, health-care providers or patients should do. It implies a choice between different interventions that have an impact on health and that have ramifications for the use of resources. As of 2009, all publications containing WHO recommendations are approved by the WHO Guidelines Review Committee. WHO has developed evidence-informed recommendations for nutrition interventions in public health, using the procedures outlined in the WHO Handbook for guideline development (7). The steps in this process include: (i) identification of priority questions and outcomes; (ii) evidence retrieval; (iii) assessment and synthesis of the evidence; (iv) formulation of recommendations, including research priorities; and (v) planning for dissemination, implementation, impact evaluation and updating.

Using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) methodology, evidence profiles related to preselected topics are prepared, based on up-to-date systematic reviews. Also, as part of the collaboration within WHO, the Department of Nutrition for Health and Development participates in the development of guidelines produced by other departments within WHO. During 2012–2013, WHO headquarters updated or developed the following guidelines:


Two additional guidelines are being finalized for publication in early 2014.
The following meeting reports were published during the biennium 2012-2013:

**REPORTS**

Priorities in the assessment of vitamin A and iron.
Panama City, Panama, Report, 15–17 September 2010.

Use of systematic reviews of the evidence in public health nutrition.
Proceedings of an informal consultation held 18 October, 2011 in Geneva, Switzerland.

Salt reduction and iodine fortification strategies in public health.
Report of a joint technical meeting convened by World Health Organization (WHO) and The George Institute for Global Health in collaboration with the International Council for the Control of Iodine Deficiency Disorders Global Network.

WHO/CDC. Methodological approaches to estimating global and regional prevalences of vitamin and mineral deficiencies.
Atlanta, USA 7–9 December 2010.

Use of systematic reviews of the evidence in public health nutrition.
Proceedings of an informal consultation held 18 October, 2011 in Geneva, Switzerland.

**OTHER WHO PUBLICATIONS**

Congenital anomalies [fact sheet N°370].


Infant and young child feeding [fact sheet N°342].

**MULTILINGUALISM**

WHO’s publications and other resources that are produced in several languages help to ensure that health information reaches those who need it, in the language they can understand. This makes access to health information both more equitable and more effective.

Communicating in different languages bridges gaps and fosters understanding between people. It allows WHO to more effectively guide public health practices, reach out to audiences worldwide, and achieve better global health outcomes. The six official languages of WHO – Arabic, Chinese, English, French, Russian and Spanish – were established by a 1978 World Health Assembly resolution, turning multilingualism into a WHO policy.

Since the adoption of a 1998 resolution, all governing bodies’ documents and corporate materials have been made available online in all official languages. Many of the WHO publications have been translated into these languages. Efforts will be made to make more resources available in the six official WHO languages.
Guidelines on vitamin A supplementation are listed next, followed by guidelines on iron supplementation and on point-of-use fortification of foods with micronutrient powders.

**Guideline:** Neonatal vitamin A supplementation.

**Guideline:** Vitamin A supplementation in infants 1–5 months of age.

**Guideline:** Vitamin A supplementation in infants and children 6–59 months of age.

**Guideline:** Vitamin A supplementation in pregnant women.

**Guideline:** Vitamin A supplementation in postpartum women.

**Guideline:** Vitamin A supplementation in pregnancy for reducing the risk of mother-to-child transmission of HIV.

**Guideline:** Intermittent iron supplementation in preschool and school-age children.

**Guideline:** Intermittent iron supplementation in menstruating women.

**Guideline:** Use of multiple micronutrient powders for home fortification of foods consumed by pregnant women.

**Guideline:** Use of multiple micronutrient powders for home fortification of foods consumed by infants and children 6–23 months of age.

A number of summary statements are now available on the VMNIS website, along with versions in the other five United Nations languages:

**Haemoglobin concentrations for the diagnosis of anaemia and assessment of severity.**

**Serum ferritin concentrations for the assessment of iron status and iron deficiency in populations.**

**Serum retinol concentrations for determining the prevalence of vitamin A deficiency in populations.**

**Serum and red blood cell folate concentrations for assessing folate status in populations.**

**Urinary iodine concentrations for determining iodine status deficiency in populations.**
VMNIS: Vitamin and Mineral Nutrition Information System.
MEETINGS 2012


- WHO/CDC technical consultation: Optimal blood folate concentrations in women of reproductive age for prevention of neural tube defects. In collaboration with the National Center on Birth Defects and Developmental Disabilities at CDC. Emory Conference Center, Atlanta, GA, United States of America (USA), 13–15 August 2012.


WHO/CDC/ICBDSR Training workshop on surveillance and prevention of birth defects, Geneva, Switzerland, May 27–31 2013


### Project ePORTUGUÊSe

ePORTUGUÊSe is a platform to support the development of human resources for health in Portuguese-speaking Member States, facilitating collaboration among institutions, delivering health information, and promoting capacity-building. The mission of the ePORTUGUÊSe network is to strengthen collaboration among Portuguese-speaking countries, promote capacity-building of human resources for health, and facilitate access to health information in Portuguese. One of the main objectives is to improve access to health-related information in Portuguese through development of the Virtual Health Library model created by the Latin American and Caribbean Center on Health Sciences Information, a specialized centre of the Pan-American Health Organization (PAHO). As part of the Department’s support for this project, the Evidence and Programme Guidance Unit, in collaboration with PAHO Brazil, prepared the translation and layout of 13 documents in Portuguese (26).

### Documents Prepared

<table>
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<th>Document Title</th>
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<th>Date</th>
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THE VITAMIN AND MINERAL NUTRITION INFORMATION SYSTEM

The WHO Vitamin and Mineral Nutrition Information System (VMNIS) was initially established in 1991 and has now been expanded into a more comprehensive system. Evaluations of epidemiological and informatics capabilities of the system in 2009 guided the upgrade and expansion of VMNIS to include a more comprehensive micronutrients database and additional resources and tools for vitamin and mineral nutrition surveillance by Member States and their partners, as well as the incorporation and utilization of advances in information technology to disseminate the information. A new website is now online for VMNIS, which includes the following sections: (i) micronutrients database; (ii) indicators; (iii) laboratory capacity; (iv) surveillance tools; and (v) publications. The website is now also available in all six WHO official languages.

GLOBAL DATA BANK ON INFANT AND YOUNG CHILD FEEDING

The WHO Global Data Bank on Infant and Young Child Feeding, formerly known as the Global Data Bank on Breastfeeding, has been developed and undergone several updates to include new definitions, indicators, and operational targets since its formal creation in 1991. The Global Data Bank on Infant and Young Child Feeding aims to enable policy-makers, researchers, health workers and other interested individuals to (i) assess and monitor trends of breastfeeding and complementary feeding over time; (ii) compare feeding data within and between countries as well as regions; and (iii) evaluate programmes working on protection, promotion and support of infant and young child feeding.The evaluation included epidemiological assessment as a surveillance system and a stakeholder survey was conducted to assess usefulness. As a result of that work, top-priority recommendations were provided, including the need to harmonize with other databases; update the objectives of the database; use current indicators; coordinate with other internal database managers; and create a written manual with database details, including procedures for data entry.
Data on the prevalence of exclusive breastfeeding, one of the targets of the Comprehensive implementation plan on maternal infant and young child nutrition (28), are being collected for inclusion in the World Health Statistics report. Sources of data are primarily Demographic and Health Surveys (MACRO) and Multiple Indicators Surveys (UNICEF). The report includes the following information:

38% of children aged less than 6 months are exclusively breastfed worldwide. The highest rate was reported for the WHO South-East Asia Region (47%), followed by the African and Eastern Mediterranean Regions (35% each), with the lowest rate in the European Region (25%). With regard to income, the highest rate of exclusive breastfeeding was found in the low-income group (47%) and the lowest rate in the high-income group (18%). This and additional information collected will feed the World Health Statistics 2014 report, which will be released at the time of the World Health Assembly.

WHO headquarters, in collaboration with WHO Regional Offices and UNICEF, collected information on the adoption and implementation of the International Code of Marketing of Breast-milk Substitutes (5). Only 37 out of 199 countries reporting between 2008 and early 2011 have passed laws reflecting all the recommendations of the Code (19%). By early 2011, 105 countries had incorporated some aspects of the Code into their national legislation, and between 2011 and 2013 an additional 28 countries have enacted legislation, increasing the number of countries with legislation on breast-milk substitutes to 133.
The Evidence and Programme Guidance Unit provided technical support to the Department of Emergency Risk Management and Humanitarian Response and the Inter-Agency Standing Committee Global Nutrition Cluster Working Group on addressing nutrition in major emergencies. Inputs on nutrition were given in the following documents:

Public Health Risk Assessment and Interventions:
Typhoon Haiyan, Philippines, 16 November 2013.
HQ/PEC/ERM/SCT/2013.3/PHRA.


DISSEMINATION OF GUIDELINES AND SUPPORT TO COUNTRIES

Two regional workshops were held in Islamabad, Pakistan, from 18 to 21 October 2012, covering Afghanistan, Djibouti, Iraq, Somalia, South Sudan, Sudan, Syria and Yemen; and in Accra, Ghana, from 15 to 28 March 2013, covering Eritrea, Ethiopia, Gambia, Kenya, Liberia, Nigeria, Sierra Leone and Uganda. In both workshops, there were two participants from each country (a focal point from the ministry of health and a certified trainer), in addition to participants from UNICEF, the World Food Programme, key nongovernmental organizations, and country cluster coordinators. The purpose of the workshops was to provide input for the countries to prepare plans to update their national protocols on severe acute malnutrition and prepare a capacity-building plan.

A consultation on the draft regional action plan to reduce the double burden of malnutrition for the Western Pacific 2014–2020 was held in Manila, Philippines from 19 to 21 November 2013.

A workshop on Maternal, Infant and Young Child Nutrition in East and Southern African countries: “Moving to national implementation”, was held in Entebbe, Uganda from 26 to 28 November 2013.

In 2012 and 2013, capacity-building activities on the management of acute malnutrition were held in Gambia, Mauritania, Senegal and Sudan. In Mali, an assessment of existing rehabilitation centres was conducted, examining the capacity gaps in the management of severe acute malnutrition, in order to prepare a capacity-building plan to disseminate the updated guidance on acute malnutrition.
RESEARCH: UNDERSTANDING THE BIOLOGICAL MECHANISMS OF NEONATAL VITAMIN A SUPPLEMENTATION AND INFANT SURVIVAL

There is considerable interest in vitamin A supplementation during the neonatal period as an intervention for reducing infant mortality. The Department of Nutrition for Health and Development, along with the Department of Maternal, Newborn, Child and Adolescent Health, received funding to conduct studies to generate evidence to inform global policy on the efficacy of neonatal vitamin A supplementation in improving child survival. In support of uncovering biological mechanisms by which neonatal vitamin A supplementation may be acting, the Department of Nutrition for Health and Development is coordinating the conduct of three studies to understand the biological mechanisms through which neonatal vitamin A supplementation can potentially have an impact on infant survival when given at birth. The specific objectives of the studies are:

1. To understand how a large dose of vitamin A given on the first day of life is absorbed, transported and distributed in body tissues;
2. To determine whether a large dose of vitamin A given early in life improves neonatal vitamin A stores, and, if so, to understand the magnitude and duration of impact;
3. To determine whether a large dose of vitamin A given early in life affects organ maturation;
4. To determine whether a large dose of vitamin A given on the first day of life affects innate and adaptive immune responses.

To respond to the objectives, one animal study using the sow–piglet dyad model has been conducted by the University of Wisconsin, to assess the efficacy of storage and distribution of graded oral doses of vitamin A in essential organs, and detoxification mechanisms of vitamin A metabolism. Additionally, two human double-blind, placebo-controlled trials were conducted to determine the effect of neonatal vitamin A supplementation on immune responses in early infancy. These studies examined the effect of 50 000 IU of vitamin A, given orally as a single dose within 48 hours of birth, followed by routine vaccinations, on immune function, including thymus maturation and function, systemic and mucosal immune responses to routine immunizations, regulation of immune responses, and bacterial translocation. The studies were conducted in Azimpur, Dhaka, Bangladesh (n = 305) and Sukuta, The Gambia (n = 200). The studies are near completion and their results will be presented at a WHO technical consultation held in Spring 2014.
Indicators to assess iron status in populations are important for determining the magnitude and distribution of iron deficiency as a public health problem, for choosing the most appropriate intervention, and for monitoring and evaluating the impact of implemented public health programmes. The assessment of iron status is not precise, since proteins reflect the status of different compartments in the body. As these biomarkers are affected by other conditions such as age, sex, disease, smoking, infection and inflammation, it may be difficult to identify a unique indicator of iron status.

A review on determinants of iron status in populations has been drafted, along with a protocol for retrieving, summarizing and assessing the evidence to inform WHO recommendations on the use and interpretation of serum/plasma ferritin for assessing iron status in populations. From the finalized master protocol, various protocols are now in preparation, using the Cochrane Diagnostic Test Accuracy protocols methodology.

The retrieval, summary and assessment of the evidence in these protocols includes systematic reviews of published data; analysis of raw data from international blood bank networks; the prevalence of iron deficiency to be considered a public health problem; how ferritin responds to public health interventions; methods for ferritin quantification; some ideas about ferritin in inflammation settings; and the possibility of obtaining a correction factor.

Several experts in ferritin methods; immunologists working on markers of inflammation; and authors on meta-analysis of studies on a cut-off value of serum ferritin have been contacted, to ascertain their interest in authoring these reviews and invite them to join the review teams.

Some of the protocols are:

1. Serum/plasma ferritin for assessing iron status in populations
2. Serum/plasma ferritin concentration distribution in a normal population
3. Accuracy and comparability of methods for measuring ferritin concentration
4. Serum/plasma/erythrocyte ferritin concentration distribution and usefulness to assess iron status of populations with inflammation of various origins and severity
Advocacy is a political process by an individual or a large group, which normally aims to influence public policy and resource-allocation decisions within political, economic and social systems and institutions. Advocacy in WHO for nutrition actions includes many activities such as media campaigns, public speaking, and commissioning and publishing research, as well as participation in several groups and networks. The following groups are involved in advocacy work:

- Global Alliance for Vitamin A
- Interagency Standing Committee Global Nutrition Cluster
- Working Group:
- Emergency Nutrition Network Infant
- Feeding in Emergencies Core Group: [http://www.ennonline.net/ife](http://www.ennonline.net/ife)
- WHO/UNICEF Task Force on Interventions of Malnutrition into Health Services
- Baby Friendly Hospital Initiative Network
- WHO/UNICEF global leadership on infant and young child feeding

The guideline: *Updates on the management of severe acute malnutrition in infants and children* was launched on November 27 2013 (2) and a WHO media note was published (29). *The Lancet* published a note on the guideline (30). There were also various reports in the international media on this guideline, e.g. Voice of America (31); United Nations Radio (32); Health Management and Policy Alert (33); Bakhita Radio in Sudan (34); 24 All News Pacific Islands News Association (35); and Down to Earth, India (36).
WHO planned and conducted a series of activities in celebration of the World Breastfeeding Week 2013, with leading participation of the Evidence and Programme Guidance team, in coordination with the Communications team and other WHO departments. Activities were conducted in collaboration with the International Labour Organization.

**WHO Statement on World Breastfeeding Week 2013**

Development, clearance and dissemination of a statement signed by the Assistant Director-Generals of Non-Communicable Disease and Mental Health, and Family Women’s and Children’s Health (37) was developed, cleared and disseminated.

**Lunch-time seminars**

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<th>Date</th>
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<tr>
<td>Friday 2 August</td>
<td>Making workplaces supportive of exclusive and continued breastfeeding</td>
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<tr>
<td>Monday 5 August</td>
<td>The International Code of Marketing of Breast-milk Substitutes: implementation status</td>
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<tr>
<td>Tuesday 6 August</td>
<td>Breastfeeding in emergencies – protecting the vulnerable in times of vulnerability</td>
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<tr>
<td>Wednesday 7 August</td>
<td>Ethical and public health considerations of breastfeeding in the context of HIV</td>
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**Communication-related activities**

1. Breastfeeding graphics in six WHO official languages

**Breastfeeding support mums can do**

**Breastfeeding support dads can do**
Breastfeeding support: what family and friends can do

Breastfeeding support: what can be done in the workplace

There was also a News release (38) and media briefing (39), for which spokesperson training was undertaken, to launch Country implementation of the International Code of Marketing of Breast-milk Substitutes: status report 2011 (6).

Website

World Breastfeeding Week was featured prominently on the WHO corporate home page during 1–7 August.

Regional offices also highlighted the week prominently on their sites, including messages from regional directors, and the news release on the Code report.


Regional Office for the Americas: www.paho.org/hq/index.php?option=com_content&view=article&id=8846&Itemid=40015

Regional Office for the Eastern Mediterranean: www.emro.who.int/media/news/breastfeeding-week-2013.html


Regional Office for South-East Asia: www.searo.who.int/rd_message_wbd2013.pdf

Regional Office for the Western Pacific: www.wpro.who.int/regional_director/speeches/2013/20130725

On the corporate site, a significant volume of traffic was generated by World Breastfeeding Week, and many of the most popular resources were in languages other than English.

This is especially significant, given that the English version of the World Breastfeeding Week event notice was published several days before the notice in some of the other languages.

Many created dedicated World Breastfeeding Week event pages:
Dr Francesco Branca is the Director of the Department of Nutrition for Health and Development in WHO, Geneva. He graduated in Medicine and Surgery and specialized in Diabetology and Metabolic Diseases at the Università Cattolica del Sacro Cuore, Roma. He obtained a PhD in Nutrition at Aberdeen University. He was a senior scientist at the Italian Food and Nutrition Research Institute, where he was responsible for the design and implementation of several studies on the effects of food and nutrients on human health at the different stages of the life-cycle, and for the design, management and evaluation of public health nutrition programmes. He was President of the Federation of the European Nutrition Societies for 2003–2007.

Dr JP Peña-Rosas is Coordinator, Evidence and Programme Guidance, Department of Nutrition for Health and Development at WHO in Geneva, Switzerland. He joined WHO in July 2008 and now oversees and manages the Evidence and Programme Guidance workplan, in the development of evidence-informed guidelines for interventions addressing the double burden of malnutrition for neonates, infants, children and women in stable and emergency settings, under the WHO Research Strategy umbrella. He has been an Adjunct Assistant Professor at Emory University Rollins School of Public Health in Atlanta, USA since 2011. Previously, he worked for several years in the Division of Nutrition, Physical Activity and Obesity at CDC in Atlanta, USA. He was involved in nutrition surveys, and programme monitoring and evaluation for nutrition interventions in the Dominican Republic, Egypt, Georgia, Morocco, Nicaragua, Peru and Uzbekistan. In the private sector, Dr. Peña-Rosas worked at Kellogg Company, Latin America and the Caribbean Headquarters, where he served several positions, including Manager of Scientific and Regulatory Affairs for the regional operations. He received his medical degree from Universidad Central de Venezuela in his native country and a Master's degree in Public Health Nutrition from University of Puerto Rico in San Juan. He holds a PhD in Human Nutrition and Epidemiology from Cornell University, Ithaca, New York, USA. He is a member of the American Society for Nutrition, Latin American Society of Nutrition, American Evaluation Association, Cochrane Collaboration and WHO Guidelines Review Committee.

Dr Carmen Casanovas is a paediatrician who graduated from the Universidad Mayor de San Andrés and Hospital del Niño in La Paz, in her native Plurinational State of Bolivia. She also holds a Masters in Public Health from Tulane School of Public Health and Infectious Diseases, in New Orleans, USA. With over 20 years’ international experience in training, planning, monitoring and evaluation of public health programmes, Dr Casanovas has provided technical assistance in maternal and child health and nutrition, development of evidence-informed guidelines, and monitoring strategies and evaluation tools. She is master assessor/trainer in the Baby Friendly Hospital Initiative, an initiative established by WHO and UNICEF to promote optimal breastfeeding practices. She has trained many health professionals on optimal breastfeeding practices in countries from all WHO regions; and has developed multiple capacity-building materials on infant and young child feeding, growth assessment, HIV/AIDS and nutrition. Dr Casanovas currently works as a technical officer in the Evidence and Programme Guidance Unit at the Department of Nutrition for Health and Development in WHO headquarters in Geneva, Switzerland. Her current responsibilities include evidence-informed guideline development for nutrition actions addressing the double burden of malnutrition, particularly for maternal and child health. She also works as part of the promoting healthy growth and preventing childhood stunting team.

Dr Luz Maria De-Regil is an epidemiologist at WHO, first with the Micronutrients Unit and then with the Evidence and Programme Guidance Unit since September 2009. She is responsible for coordinating the development of global guidelines on nutrition interventions for different age groups and settings; updating and expanding VMNIS; developing tools for monitoring and evaluation
of nutrition interventions; leading international and multidisciplinary review teams to assess the evidence; and translating knowledge into global public policy. With more than 50 publications in English and Spanish, for different audiences, Dr De-Regil has been involved in community programmes and designed and implemented research focused on maternal and infant nutrition and health. She has experience in applying in vitro and in vivo laboratory techniques, in combination with food science and epidemiology. She is an active member of the WHO Guidelines Review Committee, WHO Research and Ethics Committee, the GRADE working group, four groups within the Cochrane Collaboration, the American Society for Nutrition, the Latin American Society of Nutrition and the Mexican Pediatric Research Association, and a former Vice-President of the Mexican Society of Nutrition.

Dr Maria Nieves García-Casal joined the Department of Nutrition for Health and Development in the capacity of senior consultant for 12 months from January 2013. With over 20 years' experience in nutrition and food sciences, her main area of expertise is in micronutrients research and food fortification programmes. She was head of the pathophysiology laboratory at the Venezuelan Institute of Scientific Research (IVIC – Instituto Venezolano de Investigaciones Cientificas) in the Bolivarian Republic of Venezuela, where she worked on iron absorption studies as well as on metabolism of vitamin A, carotenoids and folates. She brings extensive experience in food fortification programmes and micronutrient laboratory methods. Dr García-Casal, a native of La Coruña, Spain, received her degree in Nutrition and Dietetics from Universidad Central de Venezuela and a PhD in Biochemistry from IVIC, Venezuela. Additionally she had two postdoctoral fellowships from University of Kansas and University of Miami, USA, where she worked on iron absorption and molecular biology techniques. Dr García-Casal is the President of the Latin American Nutrition Society for 2012–2015, and a member of the panel for reviewing the requirements for energy and nutrients for Venezuela (2012 revision). She has been a consultant for WHO and its regional offices on several occasions. She joined the Evidence and Programme Guidance Unit, to work on the development of updated recommendations for biomarkers of iron nutrition in populations, and retrieving, summarizing and assessing the evidence to inform guidelines for measuring iron status in populations.

Ms Chantal Gégout works as a technical officer in the Evidence and Programme Guidance Unit at the Department of Nutrition for Health and Development in WHO headquarters in Geneva, Switzerland. She is a public health nutritionist, who graduated with a degree in Dietetics from the University Le Montet in Nancy, in her native country, France. She also holds a Master of Sciences in Biochemistry from the University of Sciences in Montpellier and a Master of Physiology and Pathophysiology of Human Nutrition in Developing Countries from the University of Paris Jussieu, France. She completed graduate studies in epidemiology applied to biology and medicine from CESAM/INSERM (Centre d’Enseignement de la Statistique Appliquée à la Médecine et à la Biologie Médicale/Institut National de la Santé et de la Recherche Médicale) Villejuif, Paris, France. Ms Gégout has been in charge of the nutrition programme for different nongovernmental organizations at country level (Haiti, Republic of the Congo and Southern Sudan). She also worked in France as a dietitian and nutrition counsellor for people living with HIV and people living with high risk of cardiovascular diseases. She joined WHO in 2003 as a technical focal point for nutrition in Zambia, followed by experience as intercountry focal point in nutrition in emergencies for the Southern African subregion, where she
provided assistance for planning; strengthening policies; training of health-care providers, mainly on hospital-based management of severe acute malnutrition; monitoring; and nutrition surveillance, including surveys.

Ms Paule Pillard is Assistant to the Coordinator at the Evidence and Programme Guidance Unit, Department of Nutrition for Health and Development and provides administrative support to the coordinator and the unit staff. Originally from France, she has been working in the Department of Nutrition for Health and Development, WHO, since 2007.

Dr Lisa Rogers is a technical officer for the Evidence and Programme Guidance Unit in the Department of Nutrition for Health and Development. She has been working at WHO in Geneva, Switzerland since April 2006. She is primarily responsible for managing a grant for mechanistic studies on neonatal vitamin A supplementation, and coordinating the completion of evidence reviews and guideline groups to inform vitamin and mineral intervention guidelines. She holds a PhD in Nutrition and International Nutrition, from the University of California, Davis, USA. Her work included research in Guatemala investigating the causes of vitamin B12 deficiency in school-age children, and laboratory research involving the optimization of an immunological assay for holotranscobalamin II and the analysis of methylmalonic acid, homocysteine, vitamin B12, and folate. She received a Master of Science in Nutritional Sciences from the University of Florida, USA, where she conducted research involving analysis of the stability of folic acid added to cereal-grain products and the bioavailability of stable isotopically labelled folic acid added to these products, and conducted several human subject studies. She is a member of the American Society for Nutrition and the Academy of Nutrition and Dietetics.

Ms Zita Weise Prinzo is a public health nutritionist, who graduated from the London School of Hygiene and Tropical Medicine in 1991. She also holds a Master’s degree in Food Technology from the Swiss Federal Institute of Technology in Zürich, Switzerland. She has a certificate in the Management of Health Emergencies in Large Populations, organized by the International Committee of the Red Cross, and is a member of the United Nations Disaster Assessment and Coordination Team. Ms Weise Prinzo joined WHO in 1992 and worked in the ministry of health in Kathmandu, Nepal for 3 years before joining WHO headquarters in Geneva. In Nepal, she assisted the government in strengthening national nutrition and food safety programmes. With 20 years of international experience in the prevention and treatment of malnutrition in both emergency and stable settings, Ms Weise Prinzo has provided technical assistance in maternal and child nutrition through joint United Nations country missions in Africa, Asia and the Middle East. She has supported WHO country offices during several emergencies and been involved in the development of guidelines, manuals and training tools on maternal and child nutrition. Ms Weise Prinzo currently works as a technical officer in the Evidence and Programme Guidance Unit at the Department of Nutrition for Health and Development in WHO headquarters, Geneva, Switzerland. Her responsibilities include evidence-informed guideline development for nutrition actions, particularly for child undernutrition.
The Department of Nutrition for Health and Development works closely with internal collaborators at WHO and with various external organizations on topics related to evidence and programme guidance.

Centers for Disease Control and Prevention (CDC)

The International Micronutrient Malnutrition Prevention and Control (IMMPaCt) programme works with global partners to contribute CDC skills and resources to eliminate vitamin and mineral deficiencies (micronutrient malnutrition) among vulnerable populations throughout the world. Established by CDC in 2000, IMMPaCt focuses primarily on helping to eliminate deficiencies in iron, vitamin A, iodine and folate. Through a 2009–2014 agreement, IMMPaCt supports WHO in various selected projects, including providing technical assistance and subject matter expertise to help design, implement and maintain new and current micronutrient databases, as well as to assist with processes promoting new WHO guidelines and recommendations.

The CDC global initiative to eliminate folic acid-preventable neural tube defects provides the scientific and programmatic expertise to build upon and strengthen global neural tube defect surveillance systems, and expand the reach of global folic acid fortification to prevent neural tube defects. Expansion of global folic acid fortification efforts can have a significant impact on infant mortality and childhood morbidity worldwide.

CDC’s National Center on Birth Defects and Developmental Disabilities has developed a global initiative to significantly reduce the infant mortality and childhood morbidity resulting from the more than 300 000 neural tube defects occurring worldwide each year; contribute to the achievement of United Nations Millennium Development Goal 4; and help to meet the Global Health Initiative Child Health Goal. The initiative aims to expand the number of low- and middle-income countries with mandatory folic acid fortification of high-penetration staples, and provide sustainable support of long-term interventions to eliminate folic acid-preventable neural tube defects worldwide. CDC works with WHO and others to establish a global policy to support and advance country-level fortification efforts and to provide the technical expertise needed for surveillance of neural tube defects; monitor fortification efforts; and improve laboratory capacity on folate-preventable birth defects.

Micronutrient Initiative

The Micronutrient Initiative (MI), based in Ottawa, Canada, is an independent, international not-for-profit organization committed to promoting simple cost-effective solutions to hidden hunger; combating vitamin and mineral deficiency; and developing innovative new solutions where needed. MI is working to end hidden hunger and vitamin and mineral deficiency, by helping governments, food producers and partner organizations like WHO develop, implement and monitor and evaluate innovative, culturally appropriate and cost-effective programmes to get essential vitamins and minerals to the people who need them most. It also provides technical and financial assistance; offers procurement and quality control services for highly specialized supplies and equipment needed to prevent hidden hunger; advocates for micronutrient programmes; and educates government bodies around the world on policies, legislation and programmes to ensure the sustained delivery of essential vitamins and minerals.

The Eunice Kennedy Shriver National Institute of Child Health and Human Development

The Eunice Kennedy Shriver National Institute of Child Health and Human Development of the National Institutes of Health/US Department of Health and Human Services, in collaboration with partners representing the breadth of the global food and nutrition enterprise, including WHO, created the Biomarkers of Nutrition for Development programme to meet the growing need for discovery, development and implementation of reliable and valid biomarkers to assess nutrient exposure, status, function and effect. With co-funding from the Bill and Melinda Gates Foundation, it has also developed the Iron and Malaria Project, to address the safe effective use of iron interventions in areas of malaria burden. Both projects have been conducted with involvement of and support from WHO work in the area of micronutrients.
United States Department of Agriculture, Western Human Nutrition Research Center (USDA WHNRC)

WHO has been working with WHNRC on the efficacy of newborn vitamin A supplementation in improving immune function. The mission of WHNRC is to improve the health of all Americans by: (i) creating and testing nutrition interventions to improve health; (ii) assessing how an individual's environment and genetics affect those interventions; and (iii) providing reliable and reproducible research results for developing national nutrition policies. They accomplish their work through research teams of individuals with diverse skills and exceptional knowledge, unique partnerships with academia and industry, and innovative approaches that address the whole spectrum ranging from the individual cell to the population at large. They provide insightful nutrition knowledge and effective strategies to health-care professionals, nutrition educators, policy-makers, consumers and other leading thinkers in the USA and other countries.

University of Wisconsin – Madison

WHO has been conducting, with the Department of Nutritional Sciences of the University of Wisconsin, mechanistic studies to understand neonatal vitamin A supplementation using the sow–piglet dyad model. The mission of such studies is to generate and disseminate knowledge regarding diet and nutrition, to improve the health and economic development of current and future generations and to foster an educated society. The Department does this through their combined efforts in undergraduate and graduate education, research, and extension.

Cochrane Collaboration

Over 28 000 contributors worldwide work together to help health-care providers, policy-makers, patients, and their advocates and carers make well-informed decisions about health care, based on the best available research evidence, by preparing, updating and promoting the accessibility of Cochrane Reviews – over 4600 have currently been published online in The Cochrane Library. In 2010, the Cochrane Database of Systematic Reviews achieved a top-10 ISI Impact Factor for an outstanding achievement.

The work of the Cochrane Collaboration is internationally recognized as the benchmark for high-quality information about the effectiveness of health care. In January 2011, The Cochrane Collaboration was accepted as a nongovernmental organization in official relations with WHO, the public health arm of the United Nations, establishing formalized communication between the two organizations.

This collaboration supports the development of the WHO Library of Evidence for Nutrition Actions (eLENA) and grants open access to all Member States. For the work of systematic reviews on nutrition interventions and nutrition-sensitive actions, the Department of Nutrition for Health and Development has closely collaborated with the following Cochrane groups:

- Cochrane Editorial Unit (www.editorial-unit.cochrane.org)
- Developmental, Psychosocial and Learning Problems Group (www.dplpg.cochrane.org)
- Infectious Diseases Group (www.cidg.cochrane.org/en/index.html)
- Pregnancy and Childbirth Group (www.pregnancy.cochrane.org)
- Public Health Group (www.ph.cochrane.org).

The Department has also supported the update or undertaking of systematic review within the following Cochrane groups:

- Review Group on HIV/AIDS (www.hiv.cochrane.org)
- Metabolic and Endocrine Disorders Group (www.endoc.cochrane.org)
- Neonatal Group (www.neonatal.cochrane.org).

Grading of Recommendations Assessment, Development and Evaluation (GRADE) working group

The Grading of Recommendations Assessment, Development and Evaluation (GRADE) working group began in the year 2000, as an informal collaboration of people with an interest in addressing the shortcomings of present grading systems in health care. The working group has developed a common, sensible and transparent approach to grading the quality of evidence and the strength of recommendations. Many international organizations have provided input into the development of the approach and have started using it.

A member of staff of the Evidence and Programme Guidance team joined the working group in 2010, to discuss issues related to the normative work in nutrition and health at WHO.
WHO is committed to building future leaders in public health, and its internship programme provides a wide range of opportunities for graduate and postgraduate students to gain insight into the work of WHO. Although WHO receives a large number of intern applications each year, only a limited number of places for internships are available. Internships at the Evidence and Programme Guidance Unit last a minimum of 6 weeks and a maximum of 3 months, to allow the internship to be meaningful and results based. The following selected interns were hosted by the Department of Nutrition for Health and Development during the biennium 2012–2013, to work in topics related to evidence and programme guidance:

Antonina Muntoro  
12 March to 25th May 2012, University of Glasgow, United Kingdom of Great Britain and Northern Ireland (supervisor Dr De-Regil)

Aslam Khan  
9 July 2012 to 31 August 2012, Midwestern University, Arizona College of Osteopathic Medicine, Glendale, USA (supervisor: Dr De-Regil)

Becky Tsang  
2 July 2012 to 28 September 2012, Emory University, Atlanta, USA (supervisor: Dr De-Regil)

Bryan Gannon  
22 July 2013 to 13 September 2013, University of Wisconsin-Madison, USA (supervisor: Dr Rogers)

Karla Botello Ortiz  
26 August 2013 to 15 November 2013, Universidad de Carabobo, Bolivarian Republic of Venezuela (supervisor: Dr Peña-Rosas)

Hala Boukerdenna  
03 July 2013 to 27 September 2013, University of Geneva, Switzerland (supervisor: Dr De-Regil)
WHO thanks the following organizations for their continued long-term financial support for activities in the workplan for micronutrients during the biennium 2012–2013:

<table>
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<tr>
<th>Organization</th>
<th>Project name</th>
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<tr>
<td><strong>US Centers for Disease Control and Prevention (CDC)</strong></td>
<td>Global prevention of non-communicable disease prevention and promotion of health</td>
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<td><strong>The Micronutrient Initiative (MI)</strong></td>
<td>e-Library of nutrition programme guidance</td>
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<td><strong>The Government of Luxembourg</strong></td>
<td>Support for the update and dissemination of evidence-based nutrition programme</td>
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<tr>
<td><strong>The Bill &amp; Melinda Gates Foundation</strong></td>
<td>Efficacy of newborn vitamin A supplementation in improving child survival</td>
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<td>Evidence-informed guidance for successful scaling-up of effective and safe nutrition interventions</td>
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<td><strong>Humanitarian Aid and Civil Protection department of the European Commission (ECHO)</strong></td>
<td>ECHO/ERC/BUD/2011/01015; Meeting the nutritional needs of malnourished emergency-affected populations by developing evidence-based guidelines on management of acute malnutrition</td>
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<td><strong>US Agency for International Development</strong></td>
<td>Update WHO evidence-based position statements on relevant and priority micronutrient interventions</td>
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<tr>
<td><strong>The Global Alliance for Improved Nutrition</strong></td>
<td>Systematic review of evidence of micronutrient interventions and management of moderate malnutrition in vulnerable populations, as well as dissemination of some existing WHO guidelines on fortification</td>
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<td>Update WHO evidence-based position statements on relevant and priority micronutrient interventions</td>
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<td><strong>Harvard University</strong></td>
<td>Nutrition impact model study</td>
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<tr>
<td><strong>Sight &amp; Life</strong></td>
<td>Donation for the maintenance of VMNIS during 2011–2012</td>
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WHO MEMBERSHIPS

De-Regil LM. WHO Ethics and Review Committee (appointed by the Director General) 2010–2013.

De-Regil LM. WHO Guidelines Review Committee (appointed by the Director General) 2012–2015

Peña-Rosas JP. WHO Guidelines Review Committee (appointed by the Director General) 2010–2012

De-Regil LM. GRADE working group. 2010 to present

WHO NUTRITION SEMINARS SERIES HOSTED BY THE EVIDENCE AND PROGRAMME GUIDANCE UNIT

http://www.who.int/nutrition/topics/lunchtime_seminars/en/

- **Birth defects prevention: global efforts**
  - Dr Lorenzo Botto, in collaboration with the Department of Reproductive Health and Research; 16 January 2012, WHO Geneva, Switzerland

- **Why calories count: from science to politics**
  - Dr Marion Nestle and Dr Malden Nesheim; 6 July 2012. Salle D. WHO Geneva, Switzerland.

- **Healthier babies worldwide: partnership for neural tube defect prevention and Beyond prevention – care and support for children with birth anomalies**
  - Ms Alina Flores and Ms Aliki Pappas, in collaboration with the Department of Violence and Injury Prevention and Disability; 22 October 2012, WHO Geneva, Switzerland.

- **Making breastfeeding a public health priority in the United States**

- **Food and nutrition research of bio-fortified staple crops – from farm to fork to cell**
  - Dr Erick Boy-Gallego; 3 July 2013. Salle D. WHO Geneva, Switzerland.

- **Public health interventions and biologically heterogeneous human populations: nutrition and prevention of congenital anomalies**
  - Dr Patrick Stover; 22 October 2013, WHO Geneva, Switzerland.

- **Supporting best practices and scaling-up home fortification: The Home Fortification Technical Advisory Group (HF-TAG)**
  - Dr Jonathan Siekmann; 18 November 2013, WHO Geneva, Switzerland.
REFERENCES


