



Implementation of resolutions and decisions

Infant and young child nutrition

This complements document EB101/10, part XI, providing a more comprehensive evaluation of the most serious forms of child malnutrition, the progress made in reducing them, and action taken by Member States and WHO in response, *inter alia*, to resolutions WHA33.32 (1980), EB97.R13 (1996), and WHA49.15 (1996).

CONTENTS

	Page
Background	2
Protein-energy malnutrition	2
Micronutrient malnutrition	4
Infant and young child feeding	5
Overweight and obese children	8
Nutrition in emergencies	9

BACKGROUND

1. Protein-energy malnutrition, iodine deficiency, vitamin A deficiency, anaemia, and other specific deficiency diseases still affect almost one-third of infants and young children, resulting in growth failure, physical stunting, brain damage, blindness, disability, and death. Having declared hunger and malnutrition unacceptable at the International Conference on Nutrition (Rome, 1992), governments reached a new global consensus on their nature and multiple causes, and on the urgent action required to prevent, reduce and ultimately eliminate malnutrition. Nine goals for the year 2000 have been agreed (see below), together with nine areas for strategic action; the responsibilities of Member States and the international community are detailed in the World Declaration and Plan of Action for Nutrition.¹ No fewer than 140 Member States have since developed, or reinforced, their nutrition programmes using the Declaration and Plan as a common blueprint; the resulting increase in commitment and resources for improving child nutrition are apparent on a national, regional and global scale.

THE NINE GOALS OF THE WORLD DECLARATION ON NUTRITION (Rome 1992)

As a basis for the Plan of Action for Nutrition and guidance for formulation of national plans of action, including the development of measurable goals and objectives within time frames, we (the Ministers and Plenipotentiaries) pledge to make all efforts to eliminate before the end of this decade:

- Famine and famine-related deaths.
- Starvation and nutritional deficiency diseases in communities affected by natural and man-made disasters.
- Iodine and vitamin A deficiencies.

We also pledge to reduce substantially within this decade:

- Starvation and widespread chronic hunger.
- Undernutrition, especially among children, women and the aged.
- Other important micronutrient deficiencies, including iron.
- Diet-related communicable and noncommunicable diseases.
- Social and other impediments to optimal breast-feeding.
- Inadequate sanitation and poor hygiene, including unsafe drinking-water.

PROTEIN-ENERGY MALNUTRITION

2. Global progress is slow and completely inadequate in view of the goal of a 50% reduction in 1990 prevalence levels by the year 2000. Currently, an estimated 168 million children under five years of age, i.e., over a quarter (27%) of children in this age group, are still malnourished in terms of weight for age. Nevertheless, this clearly represents significant progress when compared with the nearly 200 million children - a prevalence of well over a third (36%) - who were malnourished in 1975.

3. In some regions - Africa, for example - the actual number of malnourished children has in fact risen with the population. Natural disasters, wars, civil disturbances, and population displacement have only exacerbated

¹ Endorsed in its entirety by the Health Assembly in 1993 (resolution WHA46.7).

the situation; nevertheless, while 21% are found in Africa and only 3% in Latin America, more than three-quarters still live in Asia (especially southern Asia).

4. The associated morbidity and mortality are tragic, accounting for over half (54%) of the 12 million deaths occurring annually among under-fives in developing countries, reduced physical activity, lowered resistance to infection (especially diarrhoea, respiratory disease, and measles), and impaired intellectual development and cognitive abilities.

Intrauterine growth retardation

5. Fetal malnutrition, measured in terms of intrauterine growth retardation (IUGR), is a major clinical and public health problem in developing countries, where an estimated 30 million newborns per year (24%) are affected according to the first in-depth study¹ of the global magnitude and geographical distribution of IUGR based on data from 106 developing countries. When estimated regional incidences are compared, using the more traditional indicator of IUGR in full-term babies (<2500 g at ≥ 37 weeks gestation), 11% of newborns in developing countries are affected compared with about 2% in developed countries. The majority (almost 75%) are in Asia.

6. Maternal malnutrition is the major determinant of IUGR in developing countries, with low gestational weight gain, low pre-pregnancy body mass index, and short maternal stature. Maternal anaemia, gastrointestinal and respiratory infections, malaria and cigarette-smoking are also important etiological factors. High rates of IUGR should be interpreted as an urgent public health warning of risk of malnutrition and morbidity in women of childbearing age and not merely an indicator of a high risk for the newborn.

Action and progress

7. High global prevalence of protein-energy malnutrition conceals the remarkable successes being achieved thanks to the considerable resources that a substantial number of Member States are allocating to combat malnutrition and its underlying causes; 25 of a recent sample of 60 developing countries show a measurable improvement in child nutritional status, with declining rates of protein-energy malnutrition, including 6 out of 25 countries in Africa, 9 out of 19 in Latin America, 4 out of 5 in the Eastern Mediterranean, 3 out of 6 in South-East Asia, and 3 out of 5 in the Western Pacific.

8. By June 1997, 134 Member States (70%) had established, revised or reinforced national programmes, adapting the World Declaration and Plan of Action to meet their specific needs: including nutritional objectives in development policies; improving infant feeding food quality and safety; caring for vulnerable groups such as refugees; eliminating micronutrient malnutrition; preventing obesity; and institutionalizing monitoring.

9. Collaboration with other United Nations agencies, e.g., FAO, UNICEF, UNHCR, UNU, and WFP, is also strong at country, regional and headquarters levels; the ACC Sub-Committee on Nutrition harmonizes interagency activities; 29 WHO collaborating centres and regional research networks continue to play an important role.

10. WHO supports Member States, *first*, technically and financially, by developing and implementing national policies and programmes, especially in least developed countries with high rates of malnutrition; and *secondly*, through the establishment and dissemination of scientific standards, methodology and requirements, assessment criteria, and guidelines. Both these approaches focus on six areas, all of which are crucial for the nutritional well-being of infants and young children: protein-energy malnutrition; micronutrient malnutrition; infant and young

¹ de Onis M, Blössner M, Villar J. Levels and patterns of intrauterine growth retardation in developing countries. *European Journal of Clinical Nutrition*, November 1997. In this context, IUGR is defined as weight below the 10th percentile of the birth-weight-for-gestational-age reference curve.

child feeding; obesity and diet-related noncommunicable diseases; national policies and plans of action for nutrition; and nutrition in emergencies.

11. By mid-1997 WHO had provided technical and financial support to 162 Member States specifically for strengthening national nutrition plans and had organized 23 regional meetings, most in collaboration with FAO and UNICEF, to assist countries in determining factors for nutritional improvement, accelerating the reduction of malnutrition, and strengthening national nutrition programmes. A joint FAO/WHO report¹ of global progress and action, presented to the ACC Sub-Committee on Nutrition in March 1997, has been forwarded to the United Nations Economic and Social Council and the General Assembly.

Development of a new international growth reference

12. In view of serious technical problems with the United States growth reference that WHO had been recommending for international use since the late 1970s, it has initiated a four-year study in collaboration with the United Nations University and other international and national institutions, covering North and South America, Europe, sub-Saharan Africa, and eastern, southern and western Asia. The resulting new growth curves, based on breast-fed infants and healthy young children, are expected to serve for many years to come.

MICRONUTRIENT MALNUTRITION

13. **Iodine deficiency disorders (IDD)** are the greatest cause of preventable brain damage in the fetus and infant, and of retarded psychomotor development in young children. The spectrum of pathological conditions resulting from iodine deficiency includes cretinism, deaf-mutism, squint, spastic diplegia, mental retardation, dwarfism, stillbirth, congenital anomalies, and increased perinatal mortality. It is estimated that over 900 million people (infants, children and adults) suffer from goitre, more than half of whom (52%) are in Asia, and that 16-17 million are cretins, with another 50 million suffering from less severe, though still measurable, forms of brain damage due to iodine deficiency.

14. But there has been dramatic progress in reducing IDD, largely thanks to salt iodization: in 1990, whereas only 46 out of 118 countries where IDD was known to be a significant public health problem had salt-iodization programmes, 83 countries had them by 1995, most of the remaining 35 taking steps to determine the magnitude and public health significance of IDD. Since 1990, 72 countries have conducted initial or follow-up surveys, and many have established national monitoring systems. Algeria, Argentina, Bolivia, Brazil, Cameroon, Chile, Costa Rica, Iran (Islamic Republic of), Thailand, and Zimbabwe have in the last five years achieved, or are fast approaching, the elimination goal.

15. WHO, with UNICEF and the International Council for Control of Iodine Deficiency Disorders in particular, has provided technical and financial support to Member States in establishing and monitoring national IDD control programmes. Normative activities included technical consultations to prepare statements and guidelines on safe use of iodized oil during pregnancy² and recommended normative values for thyroid volume in children.³ An expert consultation (Geneva, 1996) reviewed the results of a WHO-coordinated seven-country study on salt

¹ *Joint FAO/WHO Progress Report on the Implementation of the ICN World Declaration and Plan of Action for Nutrition*. Geneva, World Health Organization, and Rome, Food and Agriculture Organization, 1996.

² See: Safe use of iodized oil to prevent iodine deficiency in pregnant women. A statement by the World Health Organization. *Bulletin of the World Health Organization*, 1996, **74**(1): 1-3.

³ Recommended normative values for thyroid volume in children aged 6-15 years. *Bulletin of the World Health Organization*, 1997, **75**(2): 95-97.

iodization and iodine-induced hyperthyroidism in Africa, and produced new guidelines on recommended iodine levels in salt.¹

16. **Vitamin A deficiency** among children in developing countries remains the leading cause of preventable severe visual impairment and blindness, and is a significant contributor to severe infections and death, particularly from diarrhoea and measles. Nearly three million children under five years of age currently exhibit signs of clinical xerophthalmia, while an additional 250 million children are deficient in vitamin A, with an increased risk of infection and death. Current information suggests that 76 countries have clinical or subclinical vitamin A deficiency problems; Africa has the highest prevalence, while the highest numbers of clinically affected subjects and people at risk are in South-East Asia. Nevertheless, there are encouraging signs that severe vitamin A deficiency is decreasing, particularly in some parts of Asia. WHO's technical support to Member States in assessing, reducing and preventing it continued in collaboration with UNICEF, USAID, the Micronutrient Initiative (Ottawa, Canada), and the International Vitamin A Consultative Group. A WHO-coordinated trial to assess the impact of vitamin A supplementation on morbidity is just being completed; an expert consultation on safe vitamin A dosage during pregnancy and lactation was convened in June 1996 and its recommendations² distributed widely; and revised dosage schedules and guidelines for vitamin A supplements were published.³

17. The effects of **iron deficiency** and **anaemia** include increased maternal and newborn mortality, impaired, developmental and immune function and reduced learning and working capacity. They affect an estimated 2000 million people in developed and developing countries, and are major impediments to both individual and national development. A recent WHO global analysis showed that 31% of children under five years of age in developing countries are also anaemic, mostly owing to iron deficiency. The main causes are low dietary intake of iron and poor bioavailability of dietary iron, followed by infections and intestinal parasitic infestations. Other factors such as poverty, poor infant feeding practices, illiteracy and ineffective food policies are important. A document presenting assessment indicators and prevention strategies is being prepared.⁴

INFANT AND YOUNG CHILD FEEDING

18. WHO is supporting Member States' efforts to protect and promote breast-feeding through technical programmes at country, regional and global levels, and with UNICEF and other United Nations agencies, WHO collaborating centres and nongovernmental organizations.

Breast-feeding

19. According to WHO's global data bank on breast-feeding, with data from 94 countries, exclusive breast-feeding rates remain low; an estimated 35% of infants are fed only breast milk at some point between birth and four months of age.⁵ As awareness of the advantages grows in both developing and developed countries, more Member States are taking steps to protect and promote breast-feeding, and rates are increasing; e.g., in Australia, Canada, China, Iran (Islamic Republic of), Mali, Norway, Poland, Sweden, Thailand, Zambia, and Zimbabwe, but all too often in countries where malnutrition and mortality are high rates remain low. In spite of the

¹ See: "Recommended iodine levels in salt and guidelines for monitoring their adequacy and effectiveness" (unpublished offset document WHO/NUT/96.13; available on request from the Programme of Nutrition, World Health Organization, 1211 Geneva 27, Switzerland).

² "Safe vitamin A dosage during pregnancy and lactation" (unpublished document NUT/96.14).

³ *Vitamin A supplements: a guide to their use in the treatment and prevention of vitamin A deficiency and of vitamin A deficiency xerophthalmia*. 2nd edition. WHO, Geneva, 1997.

⁴ "Iron deficiency: indicators for assessment and strategies for prevention" (document WHO/NUT/96.12).

⁵ "WHO global data bank on breast-feeding" (document WHO/NUT/96.1).

advantages over artificial feeding in improved cognitive function, protection against allergies, bacterial and viral infections and the risk of contaminants, as well as nutrient excesses or deficiencies from poorly prepared artificial feeds, many, especially European, countries continue to have low, if slowly improving, breast-feeding rates (e.g., France, Italy, Ireland, Netherlands, Spain, Switzerland, and United Kingdom of Great Britain and Northern Ireland).

20. The **Innocenti Declaration** (1990) and its four operational targets¹ have contributed significantly to increasing breast-feeding rates in many countries, and to establishing and integrating national breast-feeding strategies into overall health and development policies. Results of a recent WHO survey show that more than 130 Member States have established breast-feeding committees (though not all are said to be authoritative and multisectoral); 118 have at least 12 weeks' maternity leave for at least some mothers; and the **Baby-friendly Hospital Initiative**, launched in 1992, is now operating in 171 countries and the number of such hospitals rose from about 4300 in 1995, to nearly 11 000 by mid-1997.

21. WHO's contribution to the Initiative includes advocacy, information dissemination, and production of training materials and monitoring and evaluation tools. Emphasis is on training and assessment, ensuring the Initiative's sustained credibility and integrity, and making it mother-*and*-baby-friendly. Training for health workers and hospital personnel is central to the "Integrated Management of Childhood Illness" approach. Training curricula have been developed and tested and courses organized.²

22. **Human immunodeficiency virus (HIV) and infant feeding.** WHO collaborated with UNAIDS and UNICEF in a policy statement.³ Specific guidelines on the subject - one set for health workers and another for policy- and decision-makers - are in preparation.

23. **Medical education.** Textbooks in English, French and Spanish used by major medical schools have been evaluated.⁴ In close collaboration with Wellstart International a lactation management curriculum is being integrated into basic pre-service education for physicians, nurses and other health professionals.

Complementary feeding

24. Infant and young child malnutrition, growth failure, and morbidity and mortality are closely associated in many countries with frequently faulty complementary feeding practices; nutritionally inadequate - and frequently contaminated - foods are often introduced too early (in developing and developed countries) or too late (in developing countries). WHO is intensifying its technical support to Member States to help improve these practices, for example, through the "Integrated Management of Childhood Illness" approach. WHO organized workshops on complementary feeding practices in the African (1994) and Eastern Mediterranean (1995) Regions, while Member States of the South-East Asia Region have given the subject priority in research. WHO, with the support of UNICEF and USAID, commissioned a comprehensive review⁵ and later convened a consultation of

¹ An authoritative national breast-feeding coordinator and multisectoral committee; all maternity facilities "baby-friendly"; action to give effect to the principles and aim of the International Code; and legislation to protect the breast-feeding rights of working women.

² "Breastfeeding counselling: a training course" (documents WHO/CDR/93.3-93.6) is available in Arabic, English, French, Portuguese, Russian and Spanish; and "Promoting breast-feeding in health facilities: a short course for administrators and policy-makers" (document WHO/NUT/96.3) is available in English, French and Russian (Arabic and Spanish in preparation).

³ Joint United Nations Programme on HIV/AIDS (UNAIDS). *HIV and infant feeding*. Geneva, 1996.

⁴ See: *An evaluation of the breastfeeding content of selected medical textbooks*. Institute for Reproductive Health, Georgetown University, Washington, D.C., 1997.

⁵ WHO, UNICEF, ORSTOM, University of California at Davis. "Complementary feeding of young children in developing countries: a review of current scientific knowledge" (document WHO/NUT/98.1) (in preparation).

collaborating centres in nutrition (Geneva, December 1996) to plan operational research. Guidelines for health workers are being developed in collaboration with the London School of Hygiene and Tropical Medicine, and a study on complementary feeding, micronutrients and child growth is also under way.

Progress in implementing the International Code of Marketing of Breast-milk Substitutes

25. Since the adoption of the Code in 1981, 158 Member States - 83% in all - have reported to WHO on action taken to give effect, in whole or in part, to the principles and aim of the Code (Table 1).

TABLE 1. MEMBER STATES REPORTING ON ACTION TAKEN TO GIVE EFFECT TO THE INTERNATIONAL CODE OF MARKETING OF BREAST-MILK SUBSTITUTES, 1981-1998

WHO region	Member States	Member States reporting	% of Member States	Territories reporting
Africa	46	38	83	
The Americas	35	34	97	6
South-East Asia	10	8	80	
Europe	51	31	61	
Eastern Mediterranean	22	21	95	
Western Pacific	27	26	96	6
Total	191	158	83	12

26. Although the European Region has the lowest proportion (61%) of Member States reporting, it should be noted that most of the 23 new Member States that have joined WHO between 1991 and 1997 - many of which are facing severe social and economic difficulties - are in that Region.

27. Since the last report by the Director-General,¹ new, predominantly legislative action has been taken by 31 Member States² - eight of which are mentioned for the first time - or a total of 58 Member States since 1994:

- **reinforcing existing measures** to give effect to the Code in the light of evolving circumstances, e.g., Argentina, Australia, Malaysia, Mozambique, New Zealand, Poland, Singapore, Sweden, Switzerland, and Thailand;
- **broadening the scope of action** to include *all* commercial food products for infants, e.g., Argentina, Australia, Bahrain, Botswana, Costa Rica, Madagascar, Malaysia, Senegal, Sweden, and Viet Nam - and sometimes for older children (1-3 years), e.g., Mozambique and United Republic of Tanzania.

¹ Document A49/4, part VIII.

² **Africa:** Botswana, Madagascar, Mauritania, Mozambique, Namibia, Seychelles, Togo, and Zimbabwe; **the Americas:** Argentina, Belize, Honduras, Nicaragua, and Trinidad and Tobago; **South-East Asia:** Bangladesh and India; **Europe:** Austria, Poland, and Sweden; **Eastern Mediterranean:** Cyprus, Djibouti, Iran (Islamic Republic of), and Saudi Arabia; **Western Pacific:** Australia, Cambodia, China, Marshall Islands, New Zealand, Niue, Palau, Singapore, and Tonga.

Frequently, this explicitly includes follow-up formula not generally available when the Code was adopted in 1981, but which has been mentioned in a later resolution (resolution WHA39.28);

- **strengthening monitoring**, drawing public attention to infractions by manufacturers and distributors and imposing sanctions, e.g., Argentina, Australia, Bahrain, Bangladesh, Malaysia, New Zealand, Oman, Senegal, Switzerland, Thailand, and United Arab Emirates;
- **providing infant formula for social purposes**: the precise circumstances under which genuine supplies to meet the long-term nutritional needs of infants who have to be fed on breast-milk substitutes, e.g., in orphanages, are being explicitly defined, e.g., in Bahrain, Botswana, Madagascar, and United Republic of Tanzania;
- **prohibiting distribution of samples** to the general public and mothers as a promotional tool, e.g., Côte d'Ivoire, Dominican Republic, Honduras, Madagascar, Mozambique, Poland, Senegal, Trinidad and Tobago, and the 15 members¹ of the European Union, in conformity with European Directive 91/321/EEC.

28. WHO has produced a review and evaluation framework² to help determine what action has been taken by governments or is under way to give effect to the Code and what factors have facilitated or hindered action, assess their impact, and make appropriate recommendations. International and national nongovernmental organizations remain active in this connection. For example, the International Code Documentation Centre published a teaching manual³ for its training courses on Code implementation, including a model law and the legislative and other texts of 12 countries that have implemented the Code.

29. WHO urges that national measures adopted to give effect to the International Code include clear definitions, which are communicated to and understood by all parties; transparent monitoring and reporting procedures to determine whether alleged violations contravene national measures; and a monitoring authority established under government responsibility.

OVERWEIGHT AND OBESE CHILDREN

30. Childhood obesity and its consequences are emerging as a global problem.⁴ Data from 79 developing countries and a number of industrialized countries suggest that, by WHO standards (>+2 SD above reference median weight for height), about 22 million children under five years are overweight.

31. Obesity affects almost 10% of schoolchildren in industrialized countries like Japan, United States of America, and some European countries, and high rates are also emerging in Algeria, Argentina, Chile, Egypt, Indonesia, Kiribati, Morocco, Peru, South Africa, and countries in the Caribbean. Some 30% of obese children become obese adults.

¹ Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom of Great Britain and Northern Ireland.

² "The International Code of Marketing of Breast-milk Substitutes: a common review and evaluation framework" (document WHO/NUT/96.2, available in English, Arabic and French (Russian in preparation)).

³ Sokol E. *The Code handbook. A guide to implementing the International Code of Marketing of Breast-milk Substitutes*. International Baby Food Action Network, P.O. Box 19, 10700 Penang, Malaysia, 1997.

⁴ Lack of a common measurement standard (e.g., >85th percentile, >120% weight for height, >+2 SD (standard deviations) above reference median weight for height) for defining overweight in children and adolescents has made it difficult to assess its magnitude.

32. Obesity is also a significant risk factor for a range of serious noncommunicable diseases and conditions, e.g., cardiovascular disease, hypertension and stroke, diabetes mellitus, various forms of cancer, and other gastrointestinal and liver diseases, varicose veins, gall-bladder disease, and other serious health problems, as well as accidents. Recently, WHO organized a major consultation to review associated morbidity and mortality with a view to developing guidelines for Member States on obesity prevention and management.¹

NUTRITION IN EMERGENCIES

33. Caring for the tens of millions of people in emergencies is a global humanitarian problem receiving high priority, as they frequently show high rates of malnutrition and increased vulnerability, especially the infants and young children. WHO continues to collaborate with UNHCR, WFP and nongovernmental organizations in collective efforts to assess, reduce and prevent malnutrition among these groups. Demand remains high for WHO's technical guidance on standards, evaluation criteria, assessment methodology, and nutrient requirements on behalf of this group. In response to resolution WHA47.5 WHO has prepared guiding principles. Prior to their publication in 1998, a review version² has been widely circulated for comments within the international nutrition and emergency relief community. Comprehensive manuals on managing nutrition in major emergencies³ and on treatment and management of severe malnutrition⁴ are about to be published. Reviews of the diagnosis and management of scurvy, beriberi and pellagra are in preparation. Following an intercountry workshop on managing nutrition during emergencies, held in Eritrea in 1996, a joint WHO/UNHCR consultation on caring for the nutritionally vulnerable during emergencies was planned (Rome, December 1997). Three practical WHO manuals on nutritional assessment in emergencies,⁵ nutrition requirements in emergencies⁶, and food and nutritional care in emergencies⁷ are being widely used by UNHCR and other agencies. Applied research measures for nutrition in emergencies and strategies for their implementation were discussed at a consultation that WHO organized in October 1997.

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¹ "Obesity: preventing and managing the global epidemic." Report of the WHO Consultation on Obesity, Geneva, 3-5 June 1997 (unpublished document WHO/NUT/97.2).

² "Guiding principles for feeding infants and young children during emergencies" (unpublished document NUT/97.3)

³ *Management of nutrition in major emergencies*. Geneva, World Health Organization (in press).

⁴ *Treatment and management of severe malnutrition*. Geneva, World Health Organization (in press).

⁵ Nutritional assessment in emergencies. A summary of WHO-proposed indicators, reference values and key references. From: *Management of nutrition in major emergencies*. Geneva, World Health Organization (in press).

⁶ Nutritional requirements in emergencies. From: *Management of nutrition in major emergencies*. Geneva, World Health Organization (in press).

⁷ Food and nutritional care in emergencies. A summary of WHO-proposed guidelines. From: *Management of nutrition in major emergencies*. Geneva, World Health Organization (in press).