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## World Health Organization

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### Introduction

The World Health Organization (WHO) is a specialized agency of the United Nations (UN), which is concerned with international public health. It is the directing and coordinating authority for health within the UN system. It is responsible for providing leadership on global health matters, shaping the health research agenda, setting norms and standards, articulating evidence-based policy options, providing technical support to countries, and monitoring and assessing health trends. It was established on 7 April 1948, headquartered in Geneva, Switzerland. The WHO is a member of the UN Development Group; its predecessor, the Health Organization, was an agency of the League of Nations. The constitution of the WHO had been signed by 61 countries on 22 July 1946, with the first meeting of the assembly (World Health Assembly (WHA)) finishing on 24 July 1948. It incorporated the International Office of Public Hygiene and the League of Nations Health Organization. Since its creation, it has played a leading role in the eradication of smallpox. Its current priorities include communicable diseases, in particular HIV/AIDS, Ebola, malaria, and tuberculosis. Among the remaining foci are mitigation of the effects of noncommunicable diseases; sexual and reproductive health, development, and aging; nutrition, food security, and healthy eating; occupational health; substance abuse; and driving the development of reporting, publications, and networking. The WHO is responsible for the World Health Report, a leading international publication on health, the World Health Survey, and the World Health Day (7th of April every year).

The WHO works directly with and through other agencies of the UN system, nongovernmental organizations, and collaborating centers across the world in numerous disciplines. Due to resource constraints in 1990s, the WHO places emphasis on meeting the most pressing health needs. In seeking to prevent and overcome malnutrition, the WHO promotes the tailoring of approaches to fit situation. While the rapidly increasing threat of noncommunicable diseases accounts for at least 40% of all deaths in developing countries and 75% in industrialized countries, many millions still cannot meet basic needs for energy and protein, are deficient in essential micronutrients, or are severely malnourished. Thus, coordinated action is called for on both fronts. The WHO has played a unique normative, scientific, and advisory role for the last half century. It strives to support all its member states in developing food and nutrition policies that will make healthy choices the easy choices for their populations.

### Historical Background

The middle of eighteenth century saw the first international exhibition in London, at which products of technical skill and

craftsmanship of many countries were displayed. This was possibly due to the increased speed and facility of transportation. But the same factor was also responsible for rapid and extensive spread of cholera that arrived in Europe and became a prominent reason for the origin of International Sanitary Conference, which opened in Paris on 23 July 1851. Eight years later, the second conference was held in Paris; it lasted for 5 months, during which a new draft was signed. This, in turn, was followed by a conference in Constantinople (1866), which ended in an agreement on a number of technical questions. On 1 July 1869, the fourth conference was held in Vienna, which resulted in a plan for a permanent International Commission on Epidemics followed by conferences in 1885 (Rome), 1892 (Venice), 1893 (Dresden), 1894 (Paris), and 1897 (Venice) with a focus on cholera or plague and removal of bars on trade. In 1903, the 11th conference was held at Paris with a more scientific approach toward epidemics. A proposal for translating scientific knowledge into practical public health measures by establishing the International Public Health Office was favorably received and acted upon on 9 December 1907, with the creation of the International Office of Public Hygiene (OIHP) in Paris. It was the first international office with the intent to disseminate to member state information on general public health, epidemics, and the ways to prevent and remedies for the same. Before the outbreak of the First World War, OIHP was working with an aim of controlling epidemics, opening and managing hospitals, and establishing food hygiene and biological standardization. Its activities were suspended in 1914, due to the outbreak of war, with the exception of the publication of its *Bulletin*. While OIHP was being formed, the Americans came up with International Sanitary Bureau in 1902, which was renamed as Pan American Sanitary Bureau in 1923. Besides these, there were various other regional councils of health in the eighteenth and nineteenth century in Egypt, in the Ottoman Empire, in the Moroccan region, etc.

Following the First World War, in 1920, a need for a larger, better organized, radical, dynamic, and better coordinated international health organization was felt. The world observed a breakdown of the sanitary conditions that caused the outbreak of cholera and typhus, both of which were endangering millions of lives in Poland, Russia, and other parts. The task of reestablishment of sanitary decency was a Herculean one, demanding an organization with a larger-scale, vaster outreach, more solid budget, and greater efficiency and effect. On the request of the Council of the League of Nations, International Health Conference met in London from 13 to 17 April 1920. After a lot of trials and tribulations, the league came up with its own health committee to work in coordination with OIHP. The two worked parallel for many years until after the Second World War, when the globe started making attempts to establish public health as fundamental to attainment of peace and prosperity. The UN Conference on International

Organization in San Francisco was held in 1945, at which an international health organization was established. The constitution of the WHO was approved in 1946 at the International Health Conference in New York. Along with 18 states, the Interim Commission (1946-48) took over the work of OIHP, the Health Organization of the League of Nations, and the Health Division of the UN Relief and Rehabilitation Administration. In 1948, the WHO Constitution obtained enough support to bring it into force and was established on 7 April 1948.

### WHO: Structure and Management

The WHO consists of one headquarters (in Geneva) and six regional offices working together for three main bodies: the Health Assembly (HA), the Executive Board, and the Secretariat. Nearly 8000 employees from more than 150 countries work for the organization. The staff includes not only medical doctors, public health specialists, researchers, and epidemiologists but also administrative, financial, and information systems specialists, as well as experts in the fields of health statistics, economics, and emergency relief.

### WHO: Headquarters

The WHO headquarters is in Geneva, operated by 1800 staff members. It contains different departments consisting of teams designed to work for specific projects/programmes. Each department has a director responsible for its functioning and reporting it to the higher authorities. The organization is headed by the director general, who is appointed by the HA on the nomination of the executive board.

### WHO: Regional Offices

The WHO has six regional offices, namely, the African region, region of the Americas, the Southeast Asia region, the European region, the Eastern Mediterranean region, and the western Pacific region. It should be noted that the region of the Americas is embodied in the Pan American Health Organization (PAHO), which had been established 46 years before the founding of the WHO. All the regional offices are individual functional units with committees constituting the delegates from health ministries of that region's member states. The committee has a regional director that is selected every 5 years. It holds a meeting annually where the agenda for the coming year is decided upon and progress reports regarding earlier agendas are assessed. To ensure maximum coordination and transparency between the regional office and its member states, each state has a WHO representative. The WHO receives such huge amount of statistics, concerning old and new diseases, outbreaks, health indicators, preventive measures and their efficiency, nutrition, etc., from the regional offices.

### WHO: Structure and Governance

The supreme governance of the WHO resides in the WHA, which is responsible for ratifying decisions. It generally meets every year in the month of May in Geneva and is attended by delegations from all 194 member states. Its main function is to

determine the policies of the organization. The HA appoints the director general and also supervises the financial policies and reviews and approves the budget of organization. It similarly considers reports of the executive board, which instructs it in regard to matters upon which further action, study, investigation, or report may be required.

### WHO: Executive Board

Executive board is composed of 34 individuals designated by a member state that the WHO elects. The elected board members are technically qualified in the field of health and are elected for a term of 3 years. Board meets at least twice a year, in January and May. The first meeting agrees upon the agenda for the forthcoming HA and second meeting immediately after the HA, for more administrative approvals. The main functions are to give effect to the decisions and policies of the HA, to advise it, and generally to facilitate its work. The board elects for itself a chairman, four vice-chairmen, and one rapporteur from among its members each year at its first session after the HA. The election follows a principle of rotation among geographic regions. The chairman of the board is not eligible for reelection for the next 2 years. During his course of work, the chairman is responsible for the declaration of the opening and closing of each meeting of the board, directing discussions, putting forth questions, according the right to speak, and ensuring the application of rules.

### WHO: Committees of the Board

The board has the power to establish committees as and when necessary for the study of, and reporting on, any item on its agenda. Standing committees are composed of members of the board or their alternates. All committees other than standing committees are open-ended, composed of all interested member states to serve a specific purpose and also under exceptional circumstances. The position of chairman and that of other officers rotate regularly between regions and, wherever applicable, between developed and developing countries and countries in transition within the regions. The board reviews from time to time the need to maintain any committee established under its authority. The director general usually reports the board on the technical, administrative, and financial implications of all the agenda items submitted to the board. Communication of any reports of sessions of the board, containing resolutions, recommendations, summary, and other formal decisions to all member states and associate members of the organization, is the responsibility of the director general. Decisions by the board on important questions shall be made by a two-thirds majority of the members present and voting.

### WHO: Ad Hoc Open-Ended Intergovernmental Working Group

The WHA in May 2001 proposed that the executive board should conduct a review of its and other subsidiary bodies' working methods, so that efficiency, transparency, and improved participation by member states can be ensured. Thus, it was decided to establish an ad hoc open-ended intergovernmental working group to make recommendations to the executive board on its working methods. Such a group was

established in the 109th session of executive board and had its first meeting held on 16 January 2002. The objectives decided for the working group were the following:

- (1) To ensure that they are effective, efficient, and transparent and that participation of member states in the proceedings of the board, including working groups and drafting committees, is improved. The working group will conduct a review of the working methods of the executive board and those of its subsidiary bodies and include the rules of procedure in light of the functions of the board and interaction between the board and other organs of the WHO.
- (2) To make recommendations for improvement and to include relevant cost implications.
- (3) To report on its work at every session of the board.
- (4) To prepare draft provisions and other measures for implementing its recommendations and to submit them to the board for consideration.

### WHO: The Secretariat

The Secretariat is composed of the director general, six regional directors, and technical and administrative staff based in headquarters and regional offices and in specific countries. All countries that are members of the UN may become members of the WHO by accepting its constitution. Other countries may be admitted as members when their application has been approved by a simple majority vote of the WHA. Territories that are not responsible for the conduct of their international relations may be admitted as associate members upon application made on their behalf by the member or other authorities responsible for their international relations.

### The Tasks Entrusted to the WHO

The WHO is defined by its constitution as the directing and coordinating authority on international health work. It was constructed with the aim of reducing incidences of disease and death throughout the world. Since the beginning, its functions have been manifold, which include the following:

- International protection against communicable diseases and comparability of the causes of death and disease
- Emergency measures to assist governments, trusts, territories, etc.
- Standardization of biological and pharmaceutical products and diagnostic procedures
- Improved standards of medical teaching
- Public health administrative technique and hospital services
- Scientific research with international coordination
- Statistics pertaining to health
- Central information for counseling on health issues
- Collaboration with governmental health administration
- Cooperation between the WHO and other organizations

The top priorities enlisted in WHO's agenda during its first assembly in June 1948 were malaria, women's and children's health, tuberculosis, venereal diseases, nutrition, and environmental sanitation. The WHO has come a long way since then in terms of both manpower and the vastness of issues it

encompasses under its umbrella. The WHO covers health problems that were not even known in 1948, including relatively new communicable diseases such as HIV/AIDS, Ebola, malaria, and tuberculosis. It also is responsible for the mitigation of the effects of noncommunicable diseases; sexual and reproductive health, development, and aging; nutrition, food security, and healthy eating; occupational health; substance abuse; and driving the development of reporting, publications, and networking. The major functions of the WHO are enlisted in the succeeding text:

- To provide leadership on matters critical to health and engage in collaboration in joint ventures
- To shape the research agenda and stimulate the generation, translation, and dissemination of valuable knowledge
- To set norms and standards and to promote and monitor their implementation
- To articulate ethical and evidence-based policy options
- To provide technical support, catalyze change, and build sustainable institutional capacity
- To monitor the health situation and assess health trends

The general programme contains the earlier mentioned elements as the core functions, which provides framework of work, budget, resources, and results.

The WHO is striving ceaselessly to accomplish the tasks it is accountable for through a varied range of outputs available for monitoring and maintaining the global health situations mentioned in the succeeding text:

- An access to WHO projects, initiatives, activities, information products, and contacts related to various health topics
- Exhaustive data files on various communicable and non-communicable diseases, injuries, health systems, and various millennium development goals (MDGs)
- Maintaining a media center that updates itself on recent disease outbreaks, prevention methods, statistics, fact-sheets, situation assessments, crises, and emergencies all round the world
- Publishing annual World Health Reports, World Health Statistics, and various journals concerning sanitary, disease, and nutrition topics
- Country-wise data on health profile, mortality and burden of disease, nutrition and child malnutrition data, and strategy briefs on collaboration of the country with the WHO
- Recommendations that can impact upon health policies or clinical interventions

### WHO's Work

The work like its structure is also decentralized to six regional offices in Cairo, Copenhagen, Brazzaville, New Delhi, Manila, and Washington. Each regional office has a regional director who is responsible to the director general and the regional committee for carrying out the various programmes of the organization. To these regional offices, the governments bring their requests for assistance, in the form of surveys, and support for eradication programmes, seeking advices on national health planning, trainings, or fellowships for training. The requests are analyzed and approved based on their priority and value and then included in headquarters' programme and budget. Since

its inception, the WHO has worked for the prevention and curing of various diseases and health conditions, such as chickenpox, yellow fever, typhoid, and river blindness, and achieved success in partial control or total eradication of many such global health issues. The efforts taken by the WHO have given significant results; few landmark achievements of WHO campaigns are given in the succeeding text:

#### **Landmark achievements of the WHO or with WHO support**

**1948:** The WHO took over the responsibility for the International Classification of Disease (ICD), which dates back to the 1850s and was first known as the International List of Causes of Death. The ICD is used to classify diseases and other health conditions and has become the international standard used for clinical and epidemiological purposes.

**1952–64:** Dr. Jonas Salk (the United States) develops the first successful polio vaccine. One of the first diseases to claim WHO's attention was yaws, a crippling and disfiguring disease that afflicted some 50 million people in 1950. The global yaws control programme, fully operational between 1952 and 1964, used long-acting penicillin to treat yaws with one single injection.

**1967:** South African surgeon, Christiaan Barnard, conducts the first heart transplant.

**1970:** Apart from disease control, the WHO has also worked in the area of family planning for which it launched its Expanded Programme of Research, Development and Research Training in Human Reproduction, which was to focus on fertility regulation and birth-control methods.

**1974:** Beginning in this year, the WHO worked for 30 years to eliminate onchocerciasis (also known as 'river blindness') from West Africa. More than 600 000 cases of blindness have been prevented and 18 million children spared from the disease. Thousands of farmers have been able to reclaim 25 million hectares of fertile river land that had been abandoned because of the risk of infection. The WHA adopts a resolution to create the Expanded Programme on Immunization (EPI) to bring basic vaccines to all the world's children and immediately launches its EPI, aiming the vaccination of children worldwide against diphtheria, pertussis, tetanus, measles, poliomyelitis, and tuberculosis. This goal has now been transferred to Global Alliance for vaccines and immunization.

**1977:** The first essential medicine list appeared in 1977, 2 years after the WHA introduced the concepts of 'essential drugs' and 'national drug policy.' 156 countries today have a national list of essential medicines.

**1978:** The International Conference on Primary Health Care, in Alma-Ata, Kazakhstan, sets the historic goal of 'Health for All' – to which the WHO continues to aspire. The WHO adopted the Declaration of Alma-Ata, calling on all governments to make high-quality primary health care an essential feature of their national health systems.

**1980:** The most prominent and celebrated achievement of the WHO has been the eradication of smallpox as a result of an aggressive campaign. The last natural case of infection by smallpox occurred in 1977, and the declaration of world being smallpox-free by Global Commission for Certification of Smallpox Eradication came in 1980.

**1983:** Institut Pasteur (France) identifies the human immunodeficiency virus (HIV), the etiologic pathogen for the acquired immunodeficiency syndrome (AIDS).

**1988:** Global Polio Eradication Initiative is established. Since its launch in 1988, the Global Polio Eradication Initiative has reduced the number of cases of polio by more than 99% – from more than 350 000 per year to 1956 in 2006. Spearheaded by the national governments, WHO, Rotary International, US Centers for Disease Control and Prevention, and UNICEF, it has immunized more than two billion children thanks to the mobilization of more than 20 million volunteers and health workers. As a result, five million children are today walking, who would otherwise have been paralyzed, and more than 1.5 million childhood deaths have been averted. Next is the control of polio disease, confining it to Africa and South Asia only. The campaign started in 1988 and the declaration of America being polio-free came in 1994, Western pacific region in 2000, Europe in 2002, and India in 2013.

**1990:** The WHO launched various programmes against lifestyle diseases such as cancer, cardiovascular disease, and diabetes and promoted healthy and tobacco-free living.

**2003:** Severe acute respiratory syndrome (SARS) first recognized and the initial outbreak was controlled.

**2004:** The Global Strategy on Diet, Physical Activity and Health was adopted.

**2005–07:** The WHA revises the International Health Regulations (IHR). The IHR came into force. This legally binding instrument is the primary means of protecting the world from new and reemerging diseases, microbial shocks, and other threats to public health and global health security. Countries are obligated, by 2016, to establish a series of functions to ensure that they can detect, verify, assess, and respond to public health threats. The core capacities needed to fulfill these functions include national legislation, policy, and financing; coordination and communication through a national focal point; surveillance; response; preparedness; risk communication; human resources; and laboratories. For many countries, implementing all of the IHR's provisions is a challenge. In 2007, the WHO organized work on pandemic influenza vaccine development through c9: initial trials in collaboration with many experts.

**2009:** A pandemic involving the H1N1 influenza virus was declared in April 2009. A number of vaccines were approved for use 3 months after the pandemic declaration. This response was only possible because of the extensive preparations undertaken in during the last decade.

#### **MDGs of the WHO**

The UN MDGs include eight goals that were signed in the UN Millennium Declaration on September 2000 by all 191 UN member states, as goals to be achieved by 2015. The MDGs are interdependent and influence health, and health influences all the MDGs. Each MDG has targets set for 2015 and indicators to monitor progress from 1990 levels. The eight MDGs are summarized as follows, along with comments on the progress toward each:

Note: The registry of the goals is missing.

#### **MDG1: To Eradicate Extreme Poverty and Hunger**

The indicator for undernutrition is the proportion of underweight children under the age of 5 in region as undernutrition

includes fetal growth restriction, stunting, wasting, and deficiencies of vitamin A and zinc, along with suboptimal breast-feeding. Undernutrition in children is responsible for about 45% of all deaths under 5 years of age. In developing countries, between 1990 and 2012, a remarkable decline was observed in underweight children from 25% to 15%, which was close to the rate required to meet the MDG target, though being uneven across regions.

### **MDG2: To Achieve Universal Primary Education**

The goal was to ensure that all children, boys and girls alike, can complete a full course of primary schooling. The efforts have encouraged an enrolment of 43 million children worldwide between 1999 and 2009, and the rate of enrolment in sub-Saharan African has increased from 58% to 76%. Some of the challenges before the WHO are that there are still 61 million children left to be enrolled in schooling, and the youth illiteracy rate exceeds more than 120 million people worldwide.

### **MDG3: To Promote Gender Equality and Empower Women**

The MDG 3 indicators track key elements of women's social, economic, and political participation and guide the building of gender-equitable societies. Empowerment of women, including ensuring access to health information and control of resources such as money, is important for achieving gender equality and health equity. However, the ratio of female-to-male earned income is well below parity in all countries for which data are available. Up to one in three women worldwide will experience violence at some point in her life, which can lead to unwanted pregnancy and abortion, among other things. In partnership with member states and others, it will further empower the women, support the prevention of and response to gender-based violence, promote women's participation and leadership, define ways in which men can be engaged to promote gender equality and to contribute more to their own health and that of their families and communities, build the capacity of the WHO and its member states to identify gender equality-related gaps, and provide support for gender-responsive policies and programmes.

### **MDG4: To Reduce Child Mortality**

Across the globe, the progress in this goal was significant with the reduction being 47% (6.6 million) deaths of children under 5 years as compared to 12.6 million in 1990 and the global reduction being 3.9% during 2005–12. But still, the world is unlikely to achieve the MDG target of a two-third reduction in 1990 mortality levels by the year 2015. It has been achieved through increase in levels of immunization coverage, with 66% member states reaching 90% coverage.

### **MDG5: To Improve Maternal Health**

Maternal deaths were significantly reduced to 289 000 in 2013 from an estimated 523 000 in 1990, but this reduction was not able to achieve the target set by MDG, which was only less than half of a three-quarter reduction in the mortality ratio between

1990 and 2015. In three of the six WHO regions, births attended by skilled personnel, which is crucial for reducing perinatal, neonatal, and maternal deaths, were above 90%. In African region, the coverage for improving maternal health needs to be increased as it remains < 50%.

### **MDG6: To Combat HIV/AIDS, Malaria, and Other Diseases**

In case of newly HIV-infected people in 2012, as compared to 2001, an estimated reduction of 33% was reported. Scaling-up malaria interventions during the 2000–12 period helped to save about 3.3 million lives worldwide, and mortality rates of population at risk and due to malaria have fallen to about 42% and 29%, respectively. It was observed among neglected tropical diseases (NTDs) that in about 119 countries in which leprosy was endemic and was a great concern for public health, it was totally eradicated. In case of dracunculiasis (a crippling parasitic disease), an incidence of only 148 was reported in 2013. In 2011, worldwide, about 728 million people were treated for at least one NTD through chemotherapy. But still, neglected diseases, which are caused by a variety of pathogens including viruses, bacteria, protozoa, and helminths, affect more than one billion people.

### **MDG7: To Ensure Environmental Sustainability**

As compared to 76% in 1990, the target for access to safe-drinking water has been met by 90% of the world's population using an improved source of drinking water. But the rate of progress regarding basic sanitation is slow, as depicted in the data stating nonaccessibility to improved sanitation facilities to about 2.5 billion people worldwide.

### **MDG8: To Establish a Global Partnership for Development**

Prices of medicines are higher in private sector as compared to public sector, but worldwide, large groups of people are forced to purchase through the private sector due to scarcity of medicines. Per the data of a survey conducted in 2007–12, availability of generic medicines in the public sector was only 57%, in low- and middle-income countries. Some generic medicines have higher costs than comparable prices in the international reference. For some generic preparations, the lowest price in private sector averages from 5 up to 16 times higher than references (public sector) prices.

In developing countries, even treating common disease may be beyond the reach of the low-income households, while the patients suffering from chronic diseases always end up paying the greatest price for generic medicines. Treating global chronic disease remains a great challenge, and the burden to treat them is increasing, as in most of the countries treating chronic disease still remain out of reach.

### **WHO: Food Safety and Security**

Freedom from hunger and malnutrition is among the fundamental rights of every human being. There can be no sound social and economic development without adequate food and nutrition. This is not the same as saying that people in rich

countries necessarily have a better chance of being properly nourished than do people in poor countries. To meet the continuously growing food demand, food production in case of either agricultural or animal/livestock products is intensified or industrialized throughout the world. Food safety has become a great concern and is presenting new opportunities and challenges for food technologists. Food safety is also affected by climatic changes including temperature that can render the food unsafe for human consumption by increasing the risks associated with food production, storage, and distribution. It is estimated that about two million casualties take place every year only from foodborne and waterborne diarrheal disease in which most of them are children.

In general, the WHO is working in multiple areas to ensure safe and ample food supply globally by adopting various measures such as aiding in detection and management of foodborne diseases by generating data on diseases, supporting implementation of infrastructure, promoting safe food handling, educating food handlers and consumers on hygiene, and controlling microbiological risks by providing guidelines on risk assessment, management, and communication of chemical hazards. The WHO also defines the critical exposure levels to chemical hazards to ensure the safety of the public, which forms the base for drafting and setting the national and international food safety standards; it serves two causes, that is, to protect the consumers and also help in implementing fair-trade practices. It also has set limits for usage of antimicrobials in foods to avoid overexposure of drugs in consumers. The WHO also strives continuously in collaboration with Food and Agriculture Organization (FAO) for advancement of food technology and safety, and then, the WHO provides scientific advice on the assessments of food and food products that have been produced by using technological advancements such as genetic modification and nanotechnology to its member states.

With the advancement of food technology and modern manufacturing techniques, chances of contaminations rendering the food unsafe have also increased; in order to cater the needs related to food safety, the WHO has established International Food Safety Authorities Network (INFOSAN), with whom it helps to manage food safety risks to its member states and ensures that the information pertaining to food safety is shared throughout them. During food safety emergencies, INFOSAN along with the WHO helps to identify and stop the supply of contaminated food from one country to another among its member states. Recently, in August 2014, decisions were taken for linking the activities of INFOSAN with other food safety programs in the region and must also be bridged with the IHR (2005). It states that food safety and nutrition are inextricably linked, particularly in places where food supplies are insecure. It is observed that with rise in food scarcity, the chances of manufactures to ignore hygiene, safety, and nutrition increase. Less availability of good food makes people shift to less nutritious diets and consume more unsafe food, and to overcome this problem, the WHO has the Department of Nutrition for Health and Development, which has set global targets 2025 for improving maternal, infant, and young child nutrition. The targets include the Healthy Growth Project, aiming at a 40% reduction in the number of children under age of 5 years who are stunted, and the Iron Deficiency Anemia Project, targeting a 50% reduction of anemia in women of

reproductive age. Other goals across the agenda include care of the preterm/low-birth-weight infants: reducing low birth weight by 30%, increasing the rate of exclusive breastfeeding in the first 6 months up to at least 50%, and reducing and maintaining childhood wasting to <5%.

## WHO: Ebola Virus

Ebola virus disease is a severe, often fatal illness, with a death rate of up to 90%. Ebola affects humans and nonhuman primates (monkeys, gorillas, and chimpanzees). In humans, infection of Ebola generally occurs from direct contact through broken skin or mucous membranes with the blood or other bodily fluids or secretions (stool, urine, saliva, and semen) of infected people. Infection can also occur if breaks in the skin or mucous membranes of a healthy person come into contact with environments that have become contaminated with an Ebola patient's infectious body fluids such as soiled clothing, bed linen, or used needles. In the current outbreak in West Africa in March 2014, the majority of cases in humans have occurred as a result of human-to-human transmission. In August 2014, the WHO declared an epidemic as the world health emergency.

The UN Mission for Ebola Emergency Response (UNMER) has set the goals of '70-60.' This corresponds to the aim to isolate and treat 70% of cases suffering from Ebola and to safely bury 70% of the deceased, and all these activities will be completed in 60 days from the beginning of October 2014. The WHO is continuously supporting this cause by working in various Ebola-affected countries like Sierra Leone, Liberia, and Guinea by training burial teams in protecting themselves while caring patients; in contact tracing, social mobilization, and case management; and in conducting safe and dignified burials. As of 24 November 2014, the WHO had received US \$162 million, with a further \$35 million pledged.

The WHO aspires to give in-clinic training to 40 national and international personnel per week over two training sessions, after already training 100 participants in the hot zone (phase 3) in Guinea. In Sierra Leone also, the WHO along with the UK government has trained 4115 health-care workers, hygienists, and trainers in basic personal protective equipment, infection prevention and control, and site layout and plans to other treatment centers in other areas. It is also running community-based programmes in enabling them to recognize symptoms of Ebola early and move their family members to care so they do not infect other family members or their society. In August 2014, the WHO released a roadmap on Ebola to scale up response to the outbreak and stop transmission in affected countries within 6-9 months, prevent international spread, and assist governments and partners in the revision and resourcing of country-specific operational plans for Ebola response and the coordinating international support for their full implementation.

The WHO is also been providing regular epidemiological support on Ebola, such as data situation reports and an assessment of the response measured against the core indicators, wherever available. Updates about the Ebola are generally provided to the countries, which have been reported with widespread and intense transmission of Ebola. The nations

are classified as those with or that have had an initial case or cases or with localized transmission and those countries that neighbor or have strong trade ties with areas of active transmission.

The WHO has also developed a consolidated Ebola virus disease preparedness checklist to ensure countries are ready to respond in cases of outbreak. They are provided with checklist, simulation exercises, and methods to test their level of readiness. The WHO, the UN, and other partners are accelerating the deployment of international preparedness strengthening teams to help countries build upon their existing work and planning. At the end of each mission, technical experts remain in country to support and maximize capacity-building efforts to prepare for public health emergencies, including EVD.

**See also:** Aflatoxin: A Global Public Health Problem; Alcohol: Metabolism and Health Effects; Allergies: Public health; Anemia: Causes and Prevalence; Anemia: Prevention and Dietary Strategies; Antioxidants: Role on Health and Prevention; Appetite Control in Humans: A Psychobiological Approach; Arsenic: Toxicology and Health Effects; Ascorbic Acid: Physiology and Health Effects; Bioavailability of Nutrients; Caffeine: Consumption and Health Effects; Cancer: Diet in Cancer Prevention; Carcinogenic: Carcinogenic Substances in Food; *Clostridium*: Food Poisoning by *Clostridium perfringens*; Codex Alimentarius Commission: Role in International Food Standards Setting; Codex Alimentarius; Consumer Protection Legislation; Diarrheal Diseases; Eggs: Composition and Health Effects; Emerging Foodborne Enteric Bacterial Pathogens; Fish Oils: Composition and Health Effects; Food Fraud; Food Poisoning: Epidemiology; HACCP and ISO22000: Risk Assessment in Conjunction with Other Food Safety Tools Such as FMEA, Ishikawa Diagrams and Pareto; Hunger; Malnutrition: Prevention and Management; Nutrition and Health Claims for Food: Regulatory Controls, Consumer Perception, and Nutrition Labeling; Pesticides and Herbicides.

## Further Reading

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