Each year, one out of five countries faces a major crisis

Every day, hundreds of millions of people face threats to health and livelihoods because local and national systems that support their health and lives are overwhelmed or too weak to withstand crises and extreme events.

WHO is committed to working better with Member States and other stakeholders so that suffering and death in crises are minimized and systems are protected and repaired. We want to help national authorities and communities to:

- **Prepare** for crises by strengthening their overall capacity to manage all types of crises;
- **Mitigate** against the effects of crises by taking measures to reduce the effects of disasters and crises on systems that support good public health;
- **Respond** to crises by ensuring effective, efficient and timely action to address public health priorities so that lives are saved and suffering is reduced;
- **Recover** from crises by ensuring that the local health system is back to functioning.

The UN Inter-Agency Standing Committee (IASC) has designated WHO as the lead agency for the Global Health Cluster. The Health Cluster currently has 32 humanitarian partner agencies, organizations and institutions. The aim of the cluster approach is to strengthen system-wide preparedness and technical capacity to respond to humanitarian emergencies by ensuring that there is predictable leadership and by enhancing the accountability and transparency of humanitarian response.
This year, three key developments have influenced WHO’s emergency work: 1) the increasing demands from Member States to strengthen WHO’s emergency response operations; 2) the implementation of the humanitarian reform, resulting in new responsibilities for WHO; and 3) lessons learned during recent crises. A wide range of strategies and initiatives have come to fruition as a result of intensive work with WHO’s regional offices, other humanitarian partners, and donors.

A six-year strategy on strengthening country capacity for risk reduction and emergency preparedness has been developed with key stakeholders. HAC has trained around 1000 staff and partners through various courses including the Public Health Pre-Deployment Training course.

Using funds provided by donors under the Three-Year Programme to Enhance WHO’s Performance in Crises (TYP), WHO has continued to strengthen its field presence. It now has over 200 staff in the field and a full-time dedicated presence in over 35 countries. Following intensive training, these staff have raised resources that have enabled WHO to further increase its staffing levels in the field.

The past few years have witnessed a substantial increase in resource mobilization for crisis work. The total global voluntary income received by HAC during the biennium 2006-2007 has exceeded US$ 270 million, approximately three times bigger than that originally foreseen in the programme budget.

WHO has begun training field staff on its standard operating procedures for emergencies. Operational and logistics platforms have been expanded. WHO now has privileged access to five regional logistics hubs through its partnership agreement with the World Food Programme.

The global health cluster, established two years ago, now comprises 30 UN and non-UN members (Red Cross, international non-governmental organizations and institutions). It has a common plan and budget managed by HAC.

Lastly, the TYP was the subject of an independent review at the end of 2007. The evaluation was designed to measure the effectiveness of the TYP and to provide pointers to where WHO’s efforts should be directed in the future.

But we can’t afford to rest on our laurels. There are also important challenges and a number of strategies that must be implemented at all levels of the Organization to improve countries’ ability to minimize the effects of health emergencies on their communities. WHO looks forward to working with our partners at global, regional and country level to implement these initiatives in the coming year.

Dr Ala Alwan
Assistant Director-General
January 2008
A year in crises

The following is a chronology of the events in 2007 that saw WHO staff engaged in crisis response worldwide. Some were large-scale crises that required a concerted international response and major resource mobilization efforts. Many other crises, while more limited in scale, also called for urgent action to save lives and reduce the suffering of communities. In all cases, WHO's goal is to reduce avoidable loss of life and strengthen local capacity to deal with future crises.

January

At the beginning of 2007, Chad was marked by renewed clashes between rebel and military forces in the east, with control of several towns passing back and forth between them. The number of internally displaced people reached 100 000, further adding to the difficulties in an area already hosting 240 000 refugees from Sudan and another 60 000 from the Central African Republic. WHO donated basic health kits and medical supplies to local health care providers in Abeche and Goz Beida. From its offices in N’Djamena and Abeche, WHO helped the Ministry of Health with data collection and epidemiological analysis in the Ouaddai, Wadi Fari and Borkou-Ennedi-Tibesti regions. A weekly epidemiological bulletin was issued throughout 2007. WHO also supplied the regional hospital laboratory in Abeche with bacteriological testing equipment, and collaborated with UNICEF on the opening of a nutritional centre in the hospital.

By the beginning of 2007, fighting in the north of the Central African Republic had internally displaced an estimated 210 000 people and forced another 80 000 to flee across the border to Chad and Cameroon. Overall, one million people, most of them in remote, dangerous and inaccessible areas, were in need of humanitarian assistance. From its field office in Bossangoa, WHO provided essential drugs and supplies to the local hospital and to partners working in conflict areas. Twenty obstetric kits and two trauma kits were donated to the Ministry of Health for the Ndale and Birao regions, which were home to some of the heaviest fighting. In Ouham prefecture, WHO helped
regional health authorities reactivate the disease outbreak preparedness and response system.

In Guinée Conakry, clashes during a nationwide strike killed at least 140 people and wounded over 1700 in Conakry and the Kankan, Kissigoudou, Labé, N’Zérékoré and Siguiri prefectures. Working with partners, WHO donated medical supplies, drugs and oxygen to the Donka Hospital in Conakry where most of the wounded were treated, and pre-positioned three trauma kits.

WHO staff travelled to Guéckédou prefecture to assess an outbreak of severe diarrhoea in Temessadou and Guendembou, and provided supplies to boost the response. Four kits for the management of acute watery diarrhoea were delivered to the area.

By early January, the number of internally displaced people in the Northern and Eastern provinces of Sri Lanka had risen to more than 200 000. Assessments in both Tamil Tiger and government-controlled areas revealed considerable gaps in health service coverage, mainly due to a severe shortage of skilled health personnel. WHO donated surgical and diarrhoeal disease kits to local health authorities in Jaffna and Batticaloa.

Floods wreaked havoc in Bolivia, where a 60-day state of emergency was declared on 18 January. Eight of Bolivia’s nine national departments were affected and more than 30 people were killed. WHO/PAHO donated health kits and helped the Ministry of Health with relief activities and supply management. WHO/PAHO also helped set up an emergency operations centre for the health sector.

February

Torrential rains in Angola, Mozambique and Zambia killed scores of people, left thousands homeless and caused severe damage to crops. In Angola alone, more than 20 000 people were left without shelter. A severe cholera outbreak was reported in Luanda. WHO helped the Ministry of Health coordinate the response to the outbreak, provided logistics assistance, and donated 24 diarrhoeal disease kits.

In Mozambique, weeks of severe flooding were compounded by Cyclone Favio which hit the country on 22 February. At the height of the emergency, almost 300 000 people needed humanitarian assistance. The international humanitarian response was implemented through the cluster approach, with WHO providing health coordination. WHO donated essential drugs, medical supplies and health education materials, and trained local community workers. Mobilizing its country, regional and headquarters resources, WHO supported national authorities and health partners in strengthening health coordination and essential curative and preventive health services.

In Indonesia, heavy seasonal rains flooded more than 70 000 houses in 80 districts around Jakarta, killing more than 50 and forcing over 250 000 from their homes. Supply lines of fuel and other basic commodities were disrupted and electricity and water were cut off in some areas. WHO donated 20 new emergency health kits and two diarrhoeal disease kits as well as vehicles, boats and tents. It also helped set up 15 mobile health units to conduct rapid assessments and provide emergency care.
March

Between December and March, Madagascar was battered by four successive cyclones that displaced more than 30,000 people and affected as many as 4.5 million. Widespread destruction of public infrastructures including health centres and food warehouses forced the Government to declare a national emergency and appeal for international aid. By the end of March the health situation was critical, with one-fifth of the health infrastructure severely damaged. The national health information system had ceased to function. Essential services, including referral systems, were severely disrupted. There were acute drug shortages, and a high risk of water and vectorborne disease outbreaks. WHO participated in the crisis cell set up by the Government and helped the Ministry of Health establish an outbreak surveillance system to prevent the spread of waterborne and communicable diseases. WHO also helped establish a referral system to ensure the affected population was able to access preventive and curative health services. The Organization pre-positioned essential drugs in preparation for the next cyclone season.

Escalating violence in Darfur forced another 80,000 people to flee their homes in early 2007, bringing the total number of internally displaced people in the province to 2 million, a figure far exceeding the absorption capacity of the camps. The deteriorating security situation meant that humanitarian health workers were unable to reach large parts of Darfur. This further reduced access to basic health care services, weakened the health system and infrastructure and jeopardized supply lines of life-saving medical supplies and equipment. WHO was able to continue supporting 16 hospitals with drugs, medical supplies and specialized staff to ensure free medical and surgical care to the affected population.

In Chad, ten cases of suspected anthrax were reported in the village of Abdi, south of Abeche. The Ministry of Health and WHO visited Abdi to take samples, provide training and conduct awareness-raising activities. WHO donated a New Emergency Health Kit and other medical supplies to local health facilities. The hospital laboratory in Abeche was rehabilitated by WHO and partners in January allowing it to laboratory-confirm major communicable diseases such as: meningitis, cholera, typhoid, tuberculosis, HIV/AIDS and brucellosis.

Continuing violence in Somalia resulted in the exodus of some 40,000 people from the capital, Mogadishu, in the month of February alone. There was a marked increase in the number of cases of acute watery diarrhoea, with almost 6000 cases and more than 250 deaths reported in various regions between December 2006 and March 2007. Most cases were concentrated in Mogadishu and the south, where the humanitarian response was hampered by violence and difficult access. WHO, and partners supported the Ministry of Health in the outbreak response. Regional task forces were set up in Hiran, Middle Shabelle, Mogadishu and Kismayo. WHO pre-positioned diarrhoeal disease kits in Mogadishu, Hargeisa and Garowe. In addition, following severe rain and floods in the south of the country, WHO and partners began rehabilitating 29 health posts and seven maternal and child health centres damaged by the floods in the Gedo and Lower Shabelle regions.

In Afghanistan, flash floods and avalanches triggered by torrential rains killed at least 50 people and destroyed or damaged more than 500 houses in the south and south-western provinces of Helmand, Uruzgan, Badghis and Ghor. The Government, UN agencies, international relief organizations and coalition forces sent rapid assessment teams to the affected areas. As the acting Resident Humanitarian Coordinator, the WHO Representative led the overall humanitarian response. WHO assessed damage to health facilities, evaluated staff resources, and supported disease outbreak surveillance. WHO also delivered 37 diarrhoeal disease kits to the Ministry of Health.
April

Two months after the expiry of the cessation of hostilities agreement between the Government and the Lord’s Resistance Army, the situation in Uganda remained fluid. After more than 20 years of conflict, an estimated 1.7 million people were still displaced in the north. Despite improved security, most were living in hardship conditions, with limited access to basic services. The provision of basic health services in areas of return and resettlement was also a challenge. Many long-abandoned health facilities needed to be re-staffed and refurbished. In Lango region, WHO donated equipment and supplies for new maternity units at the Okwongo and Acokara health centres in Lira and Oyam, and supported renovation work in another two health centres. WHO also provided funds and technical assistance for training programmes teaching basic health care skills to village health teams. Since the beginning of the programme, hundreds of health staff have been trained in resettlement areas.

In the Democratic Republic of the Congo, weeks of severe clashes in Kinshasa between the army and militia loyal to Mr Bemba resulted in around 200 deaths and 150 injuries. Although the fighting caused some destruction, there was no major damage to health centres or other essential infrastructures. The main concern was the ability of health facilities to deal with the influx of wounded people. WHO donated 3 tons of essential drugs, supplies and surgical materials.

On 27 March, an earth embankment around a sewage reservoir collapsed at the Beit Lahia waste water treatment plant in north western Gaza, disgorging a river of waste and mud onto the nearby village of Um Al Nasser. Five people died and another 25 were injured. Dozens of homes were damaged or destroyed. A rapid needs assessment conducted by WHO revealed the need to strengthen surveillance, develop contingency plans and address environmental conditions. WHO also recommended that national authorities conduct public awareness campaigns on post-disaster health and safety measures and intensify nutritional surveillance.

On 28 March, WHO, UNICEF and UNFPA issued a joint press release expressing their concern over deteriorating medical services in the West Bank and Gaza Strip as a result of a lengthy strike by public sector workers. After weeks of inaction, vaccination programmes and primary health care services were at a standstill and there was an acute shortage of drugs for chronic illnesses. WHO is implementing a pharmaceutical program in West Bank and Gaza to ensure good quality essential drugs are available at Ministry of Health central and district level - through effective selection, procurement and distribution - and their use are rational and well managed.

On 2 April, an 8.1 magnitude undersea earthquake sent a tsunami wave crashing into the west coast of the Solomon Islands, displacing up to 5500 people and damaging local hospitals and health centres. The National Disaster Council confirmed 34 dead, several dozen missing, and 100 injured. The Government declared a state of emergency in the worst-hit areas. WHO and partners supplied Inter-Agency Health Kits for eight emergency units. WHO also participated in the Ministry of Health crisis response sub-group, provided technical support, including on asbestos waste management, and mobilized resources for malaria control activities.
In Kenya, clashes in the western district of Mt. Elgon killed 137 people and displaced 45,000, overwhelming local health facilities. The Resident Coordinator asked humanitarian agencies to support the Kenyan Red Cross, the only health provider allowed in the area. WHO donated essential drugs to the Kenyan Red Cross and hired ten health workers for one month to bolster local health facilities.

May

On 15-17 May, a series of waves hit several atolls in the Maldives, causing floods up to 600 m inland. The southern atolls of Seenu and Gaafu Dhaalu were particularly affected. Over 1600 people were evacuated and almost 500 houses were damaged by the flooding. Wells were contaminated by seawater, septic tanks were damaged, and sewage and landfills scattered trash throughout the area, raising sanitation concerns. WHO coordinated health assistance with the Ministry of Health.

In Lebanon, weeks of fighting in the Palestinian camp of Nahr al-Bared forced more than half of the 40,000 residents to flee, mostly to the nearby Badami camp. Badami health centre staff worked double shifts in an attempt to provide essential medical care to the thousands of elderly and sick refugees in urgent need of treatment for chronic diseases such as diabetes, high blood pressure and kidney failure. While the overall assistance was provided by UNRWA, WHO donated three emergency trauma kits as well as chronic and essential medical care kits.

June

At the end of June, Cyclone Yemyin hit the southwest coast of Pakistan, causing torrential rains and severe flooding in Balochistan, Sindh and the North-West Frontier Province. The Government reported more than 300 deaths and between 1.65 and 2.5 million people affected, including 1.5 million in Balochistan alone. Many health facilities in Balochistan were damaged, and more than half of the flooded areas remained inaccessible for several weeks. The Health Cluster activated an emergency response cell in Islamabad and opened operations centres in Karachi and Quetta. WHO staff from the regional office and headquarters were deployed to support the response. WHO dispatched one New Emergency Health Kit and 20 basic kit units, trauma and diarrhoeal diseases kits and chlorine tablets.

Over 37,000 cases of acute watery diarrhoea and almost 1200 deaths were reported in central south Somalia. The number of cases was reportedly decreasing in some areas and increasing in others, although continuing violence and insecurity meant surveillance and reporting were erratic. An outbreak of cholera was confirmed in Hargeisa, Somaliland, with around 700 cases reported. WHO donated medical supplies and helped the Ministry of Health strengthen surveillance activities. In Hargeisa, WHO worked with local health officials to investigate outbreaks, establish surveillance systems, train health staff and monitor water quality.
July

In eastern Chad, the rise in the number of cases of hepatitis E among the internally displaced population in Koloma and Gouroukoun gave health authorities cause for concern. Between January and June, over 700 cases including nine deaths, had been reported in eight districts. Furthermore, the coming rainy season brought an increased risk of outbreaks of other oral-faecal diseases such as cholera, dysentery and typhoid. WHO worked with partners to improve surveillance and monitoring and, together with the Ministry of Health, prepared a hepatitis E response plan emphasizing the need for proper sanitation, clean water and close surveillance.

By mid-July, fighting had forced between 150,000 and 280,000 people from their homes in the northern regions of the Central African Republic. Continuing violence, increasingly targeting humanitarian workers, obstructed aid delivery. A needs assessment of almost 3000 refugees around the town of Sam Ouandja revealed the urgent need for shelter, sanitation and food before the onset of the rainy season. WHO deployed two qualified nurses and donated obstetrical and medical supplies and essential drugs.

Relief efforts continued in Pakistan following Cyclone Yemyin. In Islamabad, WHO worked with other members of the Health Cluster to update the 90-day Flood Emergency Action Plan, at the request of the Ministry of Health. WHO also supported data collection, analysis and dissemination activities, and advised on procurement and monitoring of relief donations. WHO participated in an inter-agency evaluation of the flood response in Pakistan.

On 22 July, an earthquake measuring 5.5 on the Richter scale struck the Rasht region of Tajikistan, near the border with Kyrgyzstan. Over 12,000 people in 19 villages were affected, and at least three were killed. Around 200 houses were destroyed and more than 1200 were damaged. The situation was further aggravated by the aftershocks (5.2) that hit the region a week later. Following a rapid needs assessment, the United Nations issued a joint appeal on 3 August. WHO participated in the emergency assessment, provided immediate medical supplies, and donated a basic health kit.

August

Monsoon floods affected some 30 million people in India, Bangladesh and Nepal. More than 2500 deaths were reported, and hundreds of thousands of people remained at risk of waterborne diseases. Working with the governments of the affected countries, WHO focused on strengthening disease outbreak monitoring and surveillance and coordinating the emergency response. In Bangladesh and Nepal, the authorities were able to intervene promptly thanks to pre-positioned diarrhoeal diseases kits, water-quality testing kits, and other emergency supplies donated by WHO. In Bangladesh, WHO’s efforts focused on re-establishing essential health services, strengthening monitoring and surveillance, and training activities. In Nepal, WHO donated emergency kits.
and medicines to the Ministry of Health. In India, disease surveillance forms were shared with health officials in the flood-affected areas.

On 15 August, a series of earthquakes of up to 7.5 in magnitude struck off the coast of Peru. Over 500 hundred people were killed and more than 58 000 homes were destroyed in Pisco, Cañete and Chinchía. Several hospitals and health centres were damaged. National authorities deployed pre-hospital care units to the affected zones. WHO/PAHO dispatched 12 disaster management experts to support national authorities and coordinate with the United Nations Disaster Assessment and Coordination team on the ground. They assessed vaccination coverage, helped plan and coordinate response efforts, and supported the deployment of mental care services. WHO/PAHO also conducted needs assessments, donated communications equipment and helped install a logistics support systems to track humanitarian supplies.

In mid-August, Hurricane Dean swept through the Caribbean, making landfall in Jamaica on 19 August as a category 4 hurricane. The storm’s intensity continued to build, and it was upgraded to category 5 by the time it hit the Yucatan Peninsula two days later. In Jamaica, thousands of people were evacuated before the storm hit. Six people were killed and over 400 injured. The WHO/PAHO team pre-positioned in Jamaica reported serious damage to the Bellevue Psychiatric Hospital, with no running water or electricity and a disrupted sewerage system. Among other relief activities, WHO/PAHO donated vector control insecticides and equipment to ensure that gains made in PAHO’s anti-malaria campaign were maintained.

The Democratic People’s Republic of Korea announced that at least 454 people had been killed and 150 more were missing following heavy rains and floods. As many as 436 000 people in the southern half of the country were affected, including in the capital Pyongyang. Up to 40 000 homes were destroyed and another 35 000 were damaged, leaving around 170 000 people homeless. The floods also washed away crops in some of the country’s most fertile agricultural regions. A joint needs assessment conducted by the Government and UN agencies in the North Hwanghae Province revealed that up to half of the health clinics in the province had been destroyed. WHO helped national authorities re-establish access to basic health care services, and donated essential drugs and medical equipment and supplies. WHO also supported national authorities in strengthening monitoring and surveillance systems for disease outbreaks.

Following explosions that killed around 400 people near Mosul, Iraq, WHO donated medical supplies to the Iraqi Red Crescent. In response to a cholera outbreak in the north, WHO organized the delivery of ten diarrhoeal disease kits and three surgical kits.

**September**

In early September, Hurricane Felix made landfall along Nicaragua’s north-eastern coast, the first time on record that two category 5 Atlantic hurricanes had made landfall in the same season. Thousands of people in Honduras and Nicaragua were evacuated amid fears the lashing rains could lead to flash floods and landslides. The Nicaraguan government declared a state of disaster in the Autonomous Region of the North Atlantic, where over 10 000 homes were destroyed and over 100 people killed. Eight health
posts were destroyed, 13 were partially destroyed, and the roof of the Hospital Nuevo Amanecer in Biliwi was severely damaged. WHO/PAHO helped local and national health authorities set up a field coordination centre, rehabilitate essential health care services and re-establish communications. WHO/PAHO also conducted disease surveillance and control activities, helped repair disrupted vector control and water and sanitation systems and installed a system to monitor humanitarian supplies.

In West Africa, some of the worst floods in 35 years affected more than 800,000 people in Benin, Burkina Faso, Côte d’Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone and Togo. Three-quarters of the affected population was concentrated in four countries (Ghana, Togo, Burkina Faso and Mali). Burkina Faso, Ghana, Mauritania, Nigeria and Togo requested international assistance. Across the region, WHO helped national health authorities and partners with surveillance and prevention activities for acute watery diarrhoea and malaria. WHO donated essential drugs and consumables to several countries and sent health kits to Ghana, Togo, Burkina Faso and Guinea. In addition to helping national health authorities control the spread of cholera in Guinea, WHO purchased diarrhoeal disease kits, organized training on the case management of cholera, supported surveillance activities and helped monitor relief donations.

October

At least 130 people died in floods and landslides triggered by the passage of Tropical Storm Noel across Haiti and the Dominican Republic. In the Dominican Republic, more than 12,000 homes were damaged or destroyed, and up to 74,500 people were displaced. No damage to health structures was reported, but water supply systems were disrupted in many places, raising the risk of waterborne diseases. Due to regular WHO/PAHO training in mass casualty management, health facilities were able to respond quickly to the emergency. In the Dominican Republic, WHO/PAHO helped the Ministry of Health identify basic needs in the areas of essential drugs, medical equipment and water and sanitation. WHO/PAHO also supported the Ministry of Health in analysing data, identifying communities at risk and preparing a communications plan to strengthen the response. In Haiti, WHO/PAHO assisted the Ministry of Health in coordinating evacuations, assessing damages and organizing the response. WHO/PAHO and the Ministry of Health monitored sanitary conditions in the affected areas and replaced the medicines lost during the floods.

In Mexico, the worst flooding in more than 50 years affected over half a million people in the states of Tabasco and Chiapas. At least 11 hospitals and 116 health centres were partially or totally flooded and needed specialized assessment, urgent cleaning and repair, and critical equipment and supplies. The Government of Mexico asked for assistance from the United Nations. Eight sector working groups were established, with WHO/PAHO in charge of health and water and sanitation groups. WHO/PAHO mobilized five experts from its regional response team and installed a logistics system to manage humanitarian supplies.
November

On 15 November, Cyclone Sidr hit the south coast of Bangladesh. More than 3000 people died and up to 8 million people were affected. The Government of Bangladesh estimates that over 273 000 homes have been destroyed and another 650 000 damaged. There was extensive damage to crops, roads and public buildings. Assessments revealed the urgent need for food, clean water, medicine and shelter. Public health risks included water and foodborne diseases due to disrupted water supplies and poor sanitation.

WHO deployed field teams to Chittagong and Khulna Divisions to assist local health authorities in assessing the situation. WHO also participated in joint United Nations damage and needs assessments in the worst-hit areas.

Storm Peipah’s passage through the central coastal provinces of Viet Nam killed more than 45 people. More than 380 000 houses were submerged in the fifth round of major floods since August. The repeated flooding caused extensive damage to property and crops and contaminated water supplies placing hundreds of thousands of people at risk of waterborne diseases. WHO is helping improve disease outbreak surveillance in the worst-hit areas. WHO and partners are also mobilizing funding to improve access to clean water and decontaminate polluted water supplies.

Heavy fighting continued in Mogadishu, Somalia. Another 24 000 people fled the capital, bringing the total number of displaced people since October 2007 to 114 000. The United Nations Office for the Coordination of Humanitarian Affairs (OCHA) put the total number of internal displaced person in Somalia at more than 1 000 000. Overall, 1.5 million people were in need of assistance and protection in November, a 50% increase since January. Most of them have taken refuge in the Middle and Lower Shabelles, adding to the difficulties in these regions which are already hosting displaced people. WHO has scaled up its health response for an estimated 150 000 displaced people stranded on the road between Mogadishu and Afgooye. The rehabilitation of the outpatient department of the Bay Regional Hospital in Baidoa, sponsored by WHO and UNOPS, was completed. In December, a WHO-mobilized senior surgeon and a UNFPA-appointed obstetrician-gynaecologist will join hospital staff and provide on-the-job training for health workers.

In Papua New Guinea, floods triggered by tropical Cyclone Guba killed more than 160 people and displaced at least 13 000. Most of the Oro province remained cut off, with access possible only by air or sea. Almost 150 000 people were affected. WHO supported the National Department of Health in assessing the health impact, coordinating the relief actions and setting up an emergency disease surveillance system.

Typhoon Mitag affected more than 450 000 people in the Philippines. On its wake, flooding and landslides destroyed agricultural lands and roads, disrupted power and communications and forced hundreds of thousands from their homes. WHO made available interagency emergency health kits (trauma, reproductive health and diagnostic kits) and supported rapid assessment and health coordination.
Health Action in Crises: a regional overview

REGIONAL OFFICE FOR THE EASTERN MEDITERRANEAN

Different crises, different approaches, same goals

There are many different hazards throughout the world that arise during different seasons. WHO’s challenge is to set up standard benchmarks for humanitarian action and strengthen institutional capacity for crisis response in all its offices. The following section contains an overview of WHO’s key regional activities in 2007.

Most frequent health threats

+++ Complex emergencies
++ Natural disasters
+ Environmental/technological

Major natural disasters in 2007

• Flash Floods in Pakistan
• Flash Floods in Sudan

Environmental/technological emergencies

• Sewage plant leakage in the Gaza Strip

Major complex emergencies in 2007

• Afghanistan
• Iraq
• Lebanon
• Somalia
• Sudan
• West Bank and Gaza Strip

Human resources

The WHO Regional Office for the Eastern Mediterranean (EMRO) continued efforts to strengthen and sustain emergency preparedness and response capacities within WHO at both regional and country levels. All new emergency staff are required to undergo a detailed induction briefing before leaving for the field, where EMRO continues to provide close support and mentoring. EMRO has worked to strengthen alliances with existing partners and build affiliations with new ones, using an all hazards approach. Given the
increased risk of natural disasters associated with climate change, and the ever-present threat of a deadly pandemic, EMRO has also strengthened cooperation with partners in the areas of in emerging infections and environmental health. In the same vein, EMRO has expanded its regional roster of emergency experts to include pandemic influenza clinicians, social scientists and experts from other disciplines.

In 2007, EMRO conducted several regional training workshops on the management of public health risks, disaster management, the prevention and control of avian influenza and pandemic influenza, and effective communication in emergencies.

**Resource mobilization**

Funds for protracted complex emergencies and acute-onset disasters continue to make up the bulk of humanitarian funding for the region. Higher levels of funding for emergency preparedness are not only needed but make sound economic sense. Sustained investment in disaster risk reduction can go a long way towards mitigating the effects of emergencies, saving lives, and limiting losses. Community-based emergency preparedness programmes can offer cost-effective and durable solutions that prevent much greater losses and financial costs later on. EMRO has stepped up awareness and advocacy campaigns to sensitize donors about the critical need to fund emergency preparedness and risk-reduction activities. In addition to maintaining close links with its conventional international donors, EMRO is reaching out to regional donors in order to expand its support base for its emergency work.

**Next steps**

Resources and capacities, particularly for community-based preparedness and risk reduction, still lag behind and leave much to be desired. The need to strengthen preparedness at both local and national levels is further underscored by increasing vulnerabilities and threats to development imposed by climate change and the increasing growth, movement and urbanization of populations.

Steps to address these challenges will include:

- Increasing advocacy and awareness of critical health needs and health care delivery challenges in countries in chronic crisis including Afghanistan, Iraq, Somalia, Sudan, and West Bank and Gaza strip.
- Strengthening coordination with regional stakeholders and accelerating support to Member States in the design and implementation of emergency preparedness and hazard mitigation programmes.
- Increasing focus on training, contingency planning and other response readiness modalities using an all hazards approach that includes avian and pandemic influenza.
- Improving WHO’s ability to lead and manage the Health Cluster response to major crises and complex emergencies.
- Documenting performance in previous emergencies and using lessons learnt to support community-based disaster preparedness and guide the application of best practices.
Most frequent health threats

+++ Natural disasters
++ Complex emergencies
++ Disease outbreaks
+ Environmental/technological

Major natural disasters in 2007

• Cyclone Guba in Papua New Guinea
• Typhoons Hagibis and Mitag in the Philippines
• Typhoons Lekima and Peipah in Vietnam

Major complex emergencies in 2007

• The Philippines

Managing crises

The WHO Regional Office for the Western Pacific (WPRO) provided support to Member States in responding to emergencies throughout 2007. Main events included floods in Vietnam and Papua New Guinea, a tsunami in the Solomon Islands, and typhoon Mitag in the Philippines. WPRO also worked to help Member States recover from complex emergencies, including rehabilitation efforts for persons internally displaced as a result of the continuing armed conflict in Mindanao, Philippines.

Health cluster approach

WPRO continued to oversee the implementation of the cluster approach in the Philippines after the typhoons that hit the country in late 2006. The cluster approach has brought benefits in the form of bet-
ter coordination and stronger partnerships. The health cluster is planning to establish its own standard operating procedures.

**Nursing initiative**

WPRO and the International Organization for Migration (IOM) co-hosted the Joint Asia Pacific Meeting of Health Emergency Partners and Nursing Stakeholders in Bangkok in October. Participants from 17 countries reviewed regional emergency preparedness and response strategies and partnerships and recommended ways of strengthening collaboration. They also explored ways of better integrating nurses and midwives into emergency systems and activities and drew up initial plans to develop a disaster nursing network for Asia and the Pacific.

**Regional training initiatives**

In 2007, WPRO developed, organized and/or conducted the following regional training courses and workshops:

- A workshop on risk communication was held in February in Manila in collaboration with the South-East Asia Ministers of Education-Tropical Medicine (SEAMEO-TROPMED). Both the Western Pacific and South East regions were represented.
- The seventh inter-regional Public Health and Emergency Management in Asia and the Pacific (PHEMAP) training was held in Bangkok in June. Additional PHEMAP courses were held in Cambodia, China, the Lao People's Democratic Republic, Mongolia, the Philippines and Viet Nam.
- A training course on mass casualty management and hospital preparedness was held in Phnom Penh in September, again in collaboration with SEAMEO TROPMED. Participants from the Lao People's Democratic Republic, the Philippines, Thailand and Viet Nam were trained on community risk management, on-site medical activities, emergency medical systems and services, and hospital emergency response plans.

WPRO launched an interactive course on disaster health management and rapid health assessments in September. The course comprises three self-learning modules aimed at health programme managers and health workers. The first module contains an overview of disaster preparedness and emergency management. It includes an interactive map of the countries in the Western Pacific with individual country statistics on natural hazards, epidemics and accidents and their mortality rates between 1900 and 2006. The second module focuses on risk management: how to identify hazards, establish emergency preparedness plans and networks and build capacity and develop evaluation and reporting systems. The third module addresses emergency response. In addition to detailing immediate response actions, it covers supplies and logistics, coordination and networking, communication and reporting, and recovery and rehabilitation.

An intensive training on rapid health assessment was held in Hanoi in November, in cooperation with the Hanoi School of Public Health.

**Traditional medicine kit**

Traditional medicine is widely accepted and used in Asia, particularly in the Philippines. WPRO is developing a WHO Tradmed Emergency Kit for use in evacuation health centres and primary health care clinics during emergencies. The contents of the kit have been agreed on by leading Filipino experts in traditional medicine.

The kit can be used safely by lay volunteers and family members. It includes a Manual for the preparation of herbal medicines, Basic acupressure and moxibustion manual and the Meridian guide for trained acupunturists. The materials for the preparation of herbal medicines are also included.
Health Action in Crises: a regional overview

REGIONAL OFFICE FOR AFRICA

Most frequent health threats
+++ Disease outbreaks
+++ Complex emergencies
++ Environmental

Major natural disasters in 2007
• Floods in the Horn of Africa
• Floods in West Africa
• Cyclone Favio in Mozambique

Major complex emergencies in 2007
• Central African Republic
• Chad
• Democratic Republic of the Congo
• Zimbabwe

Activities
The WHO/AFRO Emergency and Humanitarian Action (EHA/AFRO) and the Communicable Disease Surveillance and Response departments held a joint workshop on nutrition surveillance and early warning systems for emergencies, and are now collaborating on joint guidelines on nutrition in emergencies. Niger, Burkina Faso, Mali and Mauritania have revised their national protocols on the management of malnutrition and are integrating their nutritional surveillance systems into the International Strategy for Disaster Reduction.
In the Horn of Africa, AFRO worked with partners to develop an early warning system for drought and floods.

A logistics support hub was opened in Accra. It contains stockpiles of emergency health kits and other supplies, ready to be despatched to countries in the region in the event of a crisis. The hub will be managed by local staff as well as an international logistician funded by the WFP.

In 2007, EHA/AFRO participated in several needs assessment missions and country workshops to prepare the 2008 Consolidated Appeals.

AFRO was closely involved in the roll out of the cluster approach in the Democratic Republic of the Congo, Liberia and Uganda. The cluster approach has paved the way for effective coordination of all stakeholders in addressing crises in these countries. Under the leadership of AFRO’s inter-country teams, sub-regional health coordination mechanisms were established in Nairobi, Dakar and Johannesburg.

Throughout 2007, EHA/AFRO continued its normative work helping Member States in the region prepare emergency preparedness and response strategies and plans. All crisis countries in the region are now producing weekly bulletins on major communicable disease threats.

**Regional training initiatives**

- Induction briefing in Mombasa for all emergency focal points in the region.
- Training workshop in Ouagadougou on emergency preparedness and response for EHA/AFRO emergency focal points.
- Training workshop in Kinshasa on standard operating procedures for emergencies.
- Co-facilitation, with the International Committee of the Red Cross, of the Health Emergencies in Large Populations (HELP) training course.
- Several EHA focal points attended 2007 WHO Public Health Pre-Deployment Training course.
Most frequent health threats

+++ Natural disasters
++ Environmental emergencies
+ Complex emergencies

Major natural disasters in 2007

• Wildfires in Greece
• Earthquakes, locust infestation and landslides in Tajikistan
• Floods in the Russian Federation and Kazakhstan

Major environmental health crises in 2007

• Lead contamination in the UN-Administered Province of Kosovo:

Major complex emergencies in 2007

• North Caucasus
• UN-Administered Province of Kosovo

Natural disasters and accidents

Between 1990 and 2006, 1469 disasters and crises caused 95,700 deaths and affected more than 42 million people. Extreme weather conditions and earthquakes accounted for most deaths. Floods, although more frequent in number, were the cause of relatively few deaths.

Structure in place

Regional level

• Emergency Steering Committee: high-level inter-divisional forum for decision-making during crises.
• Regional Surge Capacity Team: technical experts ready for deployment during crises.
• Disaster Preparedness and Response Programme: responsible for coordinating and implementing WHO’s disaster preparedness and emergency response activities.
Country level

- Disaster Preparedness and Response Focal Points in priority countries: WHO national and international focal points at country level responsible for implementing health system preparedness and emergency health response activities, and coordinating with ministries of Health.
- Ministry of Health National Counterparts for Disaster Preparedness and Response: ministry of Health focal points for preparedness and response activities.

Recent activities

- In 2007, the Regional Office for Europe (EURO) conducted workshops on crisis preparedness for hospitals and health facilities in Armenia, Poland and the Czech Republic. Representatives from ministries of health, hospitals and emergency medical services attended the course.
- In February, WHO, the European Union, UNICEF and local authorities met in Grozny to launch a joint health and education programme for the North Caucasus. The WHO component of this EU-funded project focuses on strengthening health systems in the republics of Chechnya and Ingushetia.
- In May, EURO formally endorsed the WHO Emergency Response Team, a network of regional and country office staff set up to support Member States during crises.
- Also in May, WHO’s third Public Health Pre-Deployment Training course was held in Moscow. The two-week training programme is designed to give health and other professionals the public health, personal and operational skills they need to work as part of public health response teams in emergency settings. The course was co-sponsored by the Government of the Russian Federation.
- In September, WHO, UNFPA and UNICEF launched a joint project on Improving Health of Women and Children in Kosovo. This three-year, US$ 2.3-million venture was made possible thanks to a donation from the Government of Luxembourg.
- Also in September, UN country teams from Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan met for the second time in Almaty to discuss ways of strengthening collaboration on disaster preparedness and response in the region. Representatives from OCHA, UNDP, UNICEF, WFP and WHO, reviewed information-sharing mechanisms and capacity-building efforts in emergency management, preparedness and risk reduction.

A focus on health systems preparedness

Over the past two decades, Europe has been confronted with large-scale accidents, emerging communicable diseases, conflicts, complex emergencies, and the effects of climate change. Avian influenza, the threat of a human influenza pandemic, heatwaves, widespread floods and armed conflicts are some of the many crises that governments have faced in recent years. They serve to emphasize the importance of strong and resilient health systems, capable of handling unexpected events. Countries must remain vigilant in ensuring that policies, systems and procedures are in place to prevent, mitigate and respond to a wide range of crises that threaten public health security.

EURO has coordinated the development of a standardized multi-disciplinary assessment tool. The tool is designed to help identify and evaluate priority health risks, assess generic preparedness plans and gauge the inter-operability of public health emergency plans in selected European countries. Pilot tests were conducted in Armenia and Azerbaijan. The refined assessment tool will be used for country assessment missions, and contribute to the overall improvement of Member States’ emergency preparedness and health systems response capacities.
Health Action in Crises: 
a regional overview

REGIONAL OFFICE FOR 
SOUTH-EAST ASIA

Most frequent health threats
+++ Natural disasters
++ Complex emergencies
++ Disease outbreaks
+ Environmental emergencies

Major natural disasters in 2007
• Earthquakes in Indonesia (Sumatra)
• Monsoon floods in Bangladesh, Nepal and India
• Floods in the Democratic People’s Republic of Korea
• Floods in Thailand
• Flash floods and landslides in Indonesia (Jakarta, Sulawesi, Sumatra)
• Forest fire and haze in Thailand
• Cyclone in Bangladesh

Major complex emergencies in 2007
• Nepal
• Sri Lanka
• Timor-Leste

Regional 5 Year Strategy
The Regional Office for South-East Asia (SEARO) has formulated a five-year strategy that outlines five initiatives to guide its emergency work. These are: 1) achieving benchmarks for development for emergency preparedness and response (EPR), 2) systematizing human resources development for EPR, 3) building an evidence base for emergency EPR, 4) building
resources and partnerships, and 5) strengthening communications. A regional technical advisory group (RTAG) consisting of experts from UN agencies, partner organizations and universities has been formed to give guidance on the strategy and planned activities.

**Benchmarks**

The SEARO Benchmarks Framework consists of 12 benchmarks, developed through a participatory process involving all countries of the region. SEARO has also developed standards and indicators for each benchmark.

**Human resource development**

SEARO is developing a web-based roster of national experts who can be rapidly deployed during emergencies. It is also planning a regional pre-deployment training course, in collaboration with the Indian Institute of Health Management Research in Jaipur. Other training courses conducted in 2007 include public health and emergency management courses in Bangkok and Sri Lanka, and a training workshop on mass casualty management in India. A workshop for Emergency Planning in Asia Pacific (PHEMAP) coordinators was also conducted.

**Evidence base**

SEARO has commissioned case-studies and analyses of regional emergency response programmes to document experiences and best practices. Evidence building will be improved through strengthened networks with research institutions and other partners.

**Resources and partnerships**

In 2007, SEARO mobilized over US$ 2.5 million through the United Nations’ Central Emergency Response Fund (CERF) for Bangladesh, the Democratic People’s Republic of Korea, Indonesia, Myanmar and Sri Lanka. Nepal received US$ 100,000 in bilateral support from the Republic of Korea, while the Democratic People’s Republic of Korea received of US$ 3 662 168 from Australia, Italy, Poland and the Republic of Korea. A proposal to establish a regional health emergency fund has been endorsed by the sixtieth Regional Committee. (below). SEARO and the International Federation of the Red Cross and Red Crescent Societies have renewed a memorandum of understanding on strengthening collaboration for emergency preparedness and response, with a focus on community engagement. SEARO is working closely with the International Strategy for Disaster Reduction on the upcoming global two year campaign on Hospitals Safe from Disasters.

**Communications**

SEARO has developed a communication strategy and produced a number of communication and advocacy products. It has also forged closer relationships with international and regional media in an effort to engage their interest in WHO’s emergency work.

**SPECIAL TOPIC:**

**South-East Asia Regional Health Emergency Fund (SEARHEF)**

SEARO’s Regional Health Emergency Fund (SEARHEF) will come into existence from 1 January 2008. It is designed to provide financial support to countries immediately after an emergency. This will allow them to carry out life-saving actions and lay the foundation for an adequate health response while waiting for the international funding that often arrives at a later stage. The SEARHEF will release up to US$ 175 000 within 24 hours to cover immediate needs during the first month. A second instalment of US$ 175 000 can be made available the following month on request. The total amount of funding available for any one event is US$ 350 000. The SEARHEF is intended to cover urgent needs and fill critical gaps not fund long-term recovery work. It will not replace existing mechanisms such as Flash and Consolidated Appeals and the CERF.

The establishment of such a fund was originally recommended at the 24th Health Ministers’ Meeting held in Dhaka in August 2006. The Fund was subsequently endorsed in resolution SEA/RC60/R7, adopted at the 25th Health Ministers’ Meeting and the sixtieth Regional Committee in Thimphu in 2007.

The Fund will be financed through deducting 1% of the regular budget allocations of SEAR Member States, supplemented by voluntary contributions. SEARO hopes to raise US$ 2.5 - 3 million in all for the Fund. Thailand has already committed an additional US$ 100 000.

A working group of Member States from the region will be formed to oversee the fund, with SEARO serving as the secretariat. The rules and regulations of SEARHEF will be adjusted based on experience.
Health Action in Crises: a regional overview

REGIONAL OFFICE FOR THE AMERICAS

Most frequent health threats

+++ Natural disasters
++ Environment emergencies
+ Complex emergencies

Major natural disasters in 2007

• Floods in Bolivia
• Earthquake in Peru
• Hurricane Dean in the Caribbean region
• Hurricane Felix in Central America
• Tropical Storm Noel in the Caribbean region
• Floods in Mexico

Major complex emergencies in 2007

• Colombia
• Haiti
Recent activities

Regional preparedness for pandemic influenza

The WHO Regional Office for the Americas (WHO/PAHO) helped all 21 countries of the Caribbean strengthen pandemic influenza preparedness plans. WHO/PAHO has also helped several island countries with table-top simulations, practice drills, communications exercises and training workshops. PAHO is planning to expand surveillance for influenza by establishing sentinel surveillance for severe acute respiratory diseases at the Caribbean Epidemiology Centre in Trinidad and Tobago. Software for animal surveillance focusing on avian influenza is being developed and veterinary laboratory diagnostic capacity strengthened.

WHO regional emergency response team

WHO/PAHO has trained over 100 people in emergency response and has signed agreements with other institutions for the rapid release of emergency experts. A team of stand-by mental health experts has been assembled for emergency deployment. PAHO has also pre-positioned emergency supplies and equipment in its sub-regional offices in Barbados, Panama and Quito. Disaster response guidelines and procedures in English and Spanish have been widely distributed.

In 2007, PAHO trained 20 epidemiologists from English-speaking Caribbean countries on the syndromic approach to surveillance used in disasters, when laboratory facilities may not be immediately available.

Strengthening of the Caribbean wide training programme of first responders

WHO/PAHO helped nine Caribbean countries prepare for the International Cricket Council World Cup 2007 by adapting and updating training modules on emergency care, mass casualty management and incident command systems. PAHO/WHO also helped countries upgrade their health disaster plans, and facilitated and evaluated simulation and training exercises.

Contribution to the ISDR campaign: Hospitals Safe from Disasters

Hospitals Safe from Disasters is the theme of the International Strategy for Disaster Reduction’s (ISDR) next two-year World Disaster Reduction Campaign. PAHO/WHO has been promoting this issue for many years, producing guidelines and technical publications, funding vulnerability studies of health facilities in high-risk countries and supporting awareness-raising campaigns.

In 2007, a PAHO/WHO staff member was seconded to the ISDR to work on the campaign. An advocacy kit was prepared and will be distributed worldwide in three languages. The World Bank is a strong backer of the campaign. In a bid to attract other sponsors, WHO and the ISDR have produced advocacy materials explaining why safe hospitals make sound economic sense.

At the request of the ISDR, WHO organized a workshop on disaster risk reduction in the health sector. The workshop included presentations by experts from three disaster-prone countries on what they are doing to reduce the structural and functional vulnerability of hospitals and health facilities and keep services up and running during emergencies.

The Hospital Safety Index was presented at the meeting and generated a lot of interest. The index was field tested in Mexico, St Vincent, Dominica, Cuba, Costa Rica and Peru before being refined and adjusted. Most of the 120 hospitals evaluated using the index fall into category B, meaning additional measures are necessary to ensure the hospital's safe functioning in the event of a disaster.

Support the WHO global effort to improve disaster information

WHO/PAHO’s Emergency Operations Centre was renovated and upgraded in 2007. It is managed by two full-time staff, assisted by interns. The centre is used to direct operations and host meetings during major emergencies. Thanks to WHO/PAHO’s emergency duty officer system, centre staff are available to take calls and answer e-mails around the clock. The centre has created its own web site. It also produces weekly reports for donors and other stakeholders, summarizing major events and activities.
Crisis issues

Crisis management is by definition a multi-disciplinary task encompassing a variety of public health and managerial issues. The following section refers to some of the issues that were particularly relevant to health action in crises over the course of 2007.

Leading the Health Cluster

The cluster approach was introduced in 2005 as part of the UN humanitarian reforms. Its purpose is to improve the effectiveness of the international humanitarian response to emergencies by designating lead agencies for specific areas such as health, nutrition and protection. The lead agencies are responsible for coordinating the emergency response in their sectors with the involvement of all key stakeholders. They support national authorities to ensure that humanitarian needs are assessed and gaps are addressed. Lead agencies are accountable to the Humanitarian or Resident Coordinator. Together with non-governmental organization representatives, they form the Humanitarian Country Team.

In 2007, WHO, lead agency for the health cluster, led the implementation of the health cluster in the response to the floods in Mozambique, Madagascar and Pakistan, as well as the Cyclone Sidr in Bangladesh. The cluster approach was also implemented in four countries facing complex emergencies in addition to the five countries where it was implemented in 2006. Even where the cluster approach has not been formally implemented, its concept and principles are being increasingly adopted in the response to emergencies. It will eventually be applied in all countries with Humanitarian Coordinators.

Headquarters and the regional offices provide close support and mentoring to country teams implementing the cluster approach. WHO has contributed to preparatory workshops for new clusters organized by the OCHA.

WHO also leads the global health cluster which comprises over 30 partners including UN agencies, the International Federation of Red Cross and Red Crescent Societies, academic institutions, professional associations and non-governmental organizations. Its role is to produce guidance and tools for use at country level; develop and implement training programmes; and undertake joint advocacy and resource mobilization. The Global Health Cluster met three times in 2007. Between meetings, it continued to work on specific products including guidelines and tools on stakeholder mapping, gap analysis and capacity building. It is also developing an emergency roster of health cluster field coordinators and a pre-deployment training programme. With the Nutrition
and Water, Sanitation and Hygiene clusters, it is developing an initial rapid assessment tool and field testing. Once adopted, the tool will be an important step forward in establishing a common approach to needs assessments.

Are clusters making a difference to the effectiveness of humanitarian response and, ultimately, to beneficiaries? It is early days yet but there is growing evidence that they are. The first phase of an independent evaluation commissioned by OCHA found that "the cluster approach has resulted in some systemic improvement in coordinated humanitarian response". Evaluations of the health cluster are by and large positive. The signs are that clusters are here to stay.

**Health and Nutrition Tracking Service**

Human survival, health and nutritional outcomes are the key dimensions by which the severity of a crisis and the success of humanitarian assistance may be judged. Data on nutrition and mortality yield vital information that can be used to measure human suffering and monitor and evaluate the effect of subsequent humanitarian interventions. However, these data are often not communicated or disseminated well, do not cover groups of interest, and are not collected during critical time periods. Moreover, data collected by different groups often yield contradictory results.

To address these problems, the humanitarian community has established a common data collection, analysis and dissemination group. The Health and Nutrition Tracking Service (HNTS) launched in October, will support humanitarian decision-making by offering the best possible evidence on the health and nutrition status of populations and the performance of key health services. HNTS is a collaborative effort of members of the Inter-Agency Standing Committee of the Health and Nutrition Clusters.

The HNTS will track mortality and malnutrition in emergencies and monitor their evolution using agreed health and nutrition indicators. It will do this according to transparent norms that it is developing, and it will train people in affected areas so they can improve their own monitoring as well. The availability of objective, transparent and independent health and nutrition information during emergencies will be a major step forward. It will facilitate improved humanitarian accountability and help strengthen coordination within the humanitarian system. The HNTS will also provide a more solid foundation for introduction of the cluster approach at field level.

The work of the HNTS is overseen by an independent steering committee, with a technical secretariat hosted and administered by WHO. The HNTS has hired a project manager and has begun the process of selecting the first round of countries in which to conduct its work. An expert reference panel, which is expected to begin work in early 2008, will be responsible for establishing norms in areas where consensus on best methods exist, critiquing existing data and improving its cross-sector analysis, and conducting large-scale, original data collection in one major country.

**Analysing disrupted health systems in countries in crisis**

In poorer countries, and those in chronic crisis, health systems are often dangerously weak. In acute or prolonged emergencies, the health system may collapse, leaving local and national infrastructures unable to meet basic health needs. Health planners themselves are often unable to assess health systems and identify the structural defects that are exacerbated as a result of the crisis. The lack of sound analysis and solid evidence base in turn hampers the formulation of strategies and plans to underpin emergency appeals and response interventions.

To address this problem, WHO and Merlin, a UK-based non-governmental organization, have developed a nine-day training course on analysing disrupted health systems in countries in crisis. The course targets government and non-governmental organization health professionals in countries in crises, WHO and UN health staff. The first course, bringing together 30 health professionals from countries in crisis, was held in Hammamet in November. Participants followed an intensive training curriculum that included a detailed examination of the main components of a health system in crisis and a review of country case studies and service delivery models. Other topics covered included: making sense of data, analysing health policies and recovery strategies, assessing resources and capacity, and conducting post-conflict needs assessments. Participants will continue to be mentored by WHO up on return to their countries as part of a broader learning programme aimed at improving the ability of
health professionals to analyse disrupted health systems, develop adequate response and recovery sector strategies, and plan and implement effective interventions.

**Developing a health recovery strategy for Darfur**

Despite the resumption of peace talks and the recent agreement to establish a larger peace-keeping force, prospects for an end to the violence in Darfur continue to look remote. In 2007, WHO led the efforts to develop a health and nutrition sectoral framework and action plan for Darfur for 2008-2009. The plan aims to maintain and strengthen public health programmes and health care services in all three states. It sets out the essential activities that need to be continued over the next two years, including maintaining critical, life-saving interventions; protecting essential public health functions; tackling bottlenecks in disrupted health systems and scaling up health and nutrition services. Many of the activities are intended to bridge the transition from humanitarian relief to recovery activities. The plan is based on the results of an earlier joint assessment mission as well as ongoing situation analyses. It complements the twin tracks of the health and nutrition components of the Sudan Work Plan for 2008.

**Addressing the health needs of displaced Iraqis**

The continuing violence in Iraq has created one of the largest refugee crises in the world. More than 2 million Iraqis have fled to neighbouring Syria, Jordan and Egypt. The countries in the region have been generous in keeping their borders open and providing health care to the displaced population. However, the continuing influx of refugees is now overwhelming national health services. Hundreds of thousands of displaced Iraqi children need to be vaccinated. Maternal and child care services need to be maintained. Hundreds of Iraqi amputees need prostheses and thousands of cancer patients and trauma victims need specialized treatment. Moreover, many refugees are now suffering from malnutrition as their purchasing power steadily deteriorates.

In July, WHO convened a ministerial consultation in Damascus to discuss the above challenges. The conference brought together representatives of the Ministries of Health and Foreign Affairs of Egypt, Iraq, Jordan and Syria, as well as the Iraqi Red Crescent, International Federation of the Red Cross and Red Crescent Societies, UNFPA, UNHCR, UNICEF, and OCHA. Participants adopted a Common Action Framework setting out the strategies, plans and resources needed to deal with the situation.

In September, WHO and its partners launched a joint Inter-Agency Appeal based on the Common Action Framework. The appeal seeks to raise almost $85 million to support national efforts to improve access to health care for displaced Iraqis living in Syria, Jordan and Egypt.

**Nursing initiative**

Nurses and midwives constitute the largest single group of trained health workers in the world, yet they are often overlooked by health planners responsible for formulating disaster preparedness and response strategies. Although nurses are routinely involved in emergency care, they need to be better prepared to deal with the often overwhelming demands brought about by a sudden-onset crisis. WHO and its partners hope to encourage universal disaster-response training among undergraduate nurses, appropriate to their skill levels, so they can become more effective first and second responders in emergencies.
In October, WHO and the Jordanian Nursing Council organized a regional workshop on Nursing Curricula in Emergency Preparedness and Response in Amman. Over 30 workshop participants from eight EMRO countries met to discuss ways of developing emergency expertise among nurses and midwives in the region. Participants reviewed nursing and midwifery training curricula and agreed on the standard content of a disaster-training module. They also reviewed a wide range of teaching and training materials and selected those most appropriate for inclusion in regional teaching curricula.

The output of the Amman workshop is a draft document entitled Reference domains and topics for developing post-graduate and undergraduate national training courses on emergency preparedness, response and recovery management for health emergency managers and nurses. This document was used as a basic reference tool for developing the guidelines for integrating emergency preparedness and response into the undergraduate nursing curricula. A follow up meeting to the Amman Workshop took place in November, attended by a core group of nursing and emergency experts. The outcome is the draft guidelines for nursing curricula (competencies, content areas and topics), which will be published at the end of 2007.

**Hospitals Safe from Disasters campaign 2008 - 2009**

All hospitals must be built to withstand disasters and remain fully functional at all times. This is one of the key recommendations of the Hyogo Framework for Action 2005-2015, adopted at the 2005 World Conference on Disaster Reduction. The Framework calls for all new hospitals to be built with a level of resilience that allows them to continue to function normally during emergencies. It also calls for existing health facilities, particularly those providing primary health care, to be reinforced.

The International Strategy for Disaster Reduction (ISDR) has selected Hospitals Safe from Disasters as the theme of its global campaign for 2008-2009. WHO, the ISDR and the World Bank are working together to promote the campaign and raise awareness of the importance of ensuring the uninterrupted functioning of hospitals during emergencies.

The unpredictable nature, variety and timing of disasters means that hospitals face a daunting challenge in preparing for and responding to emergencies. Nonetheless, by increasing their investment in infrastructure and safety, hospitals can go a long way towards reducing their vulnerability. Health facilities can withstand the impact of emergencies and continue to provide life-saving care. Risk mitigation measures clearly pay off. When building new facilities, the cost is almost nil. The financial investment required to upgrade existing facilities can be high, but the cost of ignoring the risks can be much higher, both financially and in terms of the needless loss of human life.

The Hospitals Safe from Disasters campaign does not just address structural safety. It also emphasizes the importance of tried and tested emergency preparedness and response plans, developed with the full involvement of all hospital staff. Hospitals must also train clinical and support staff in disaster.
response, and ensure that plans are closely coordinated with those of other sectors involved in emergency planning and response.

The objectives of the campaign are to:

• Ensure the structural resilience of health facilities in order to protect the life of patients and staff;
• Ensure the functional continuity of hospital services in the aftermath of emergencies and disasters, when they are most needed;
• Ensure that hospitals and other health facilities have risk and emergency management capability to operate in emergency settings;
• Involve a variety of professionals – health, engineering, architecture, managerial, etc. - in identifying and reducing risk and thus contributing to building the resilience of communities;
• Take steps to incorporate the above priorities in national development plans and hence build longer-term programmes for health sector emergency preparedness and risk management.

International Strategy on Disaster Reduction: a global platform

The ISDR held its first global platform for disaster risk reduction in June 2007. The meeting brought together representatives from the development and humanitarian communities as well as environmental and scientific experts. The global platform aims to raise government awareness of the need for stronger disaster risk reduction measures. It advocates for effective and timely action by nations, communities and all stakeholders and partners in this regard.

During the platform, WHO organized a workshop on disaster risk reduction in the health sector. Participants reviewed the status of emergency preparedness in the health sector and prepared a broad outline of actions to improve the functionality of hospitals and health facilities during emergencies.

IASC Guidelines on mental health and psychosocial support in emergency settings

Populations affected by emergencies often experience substantial psychological and social suffering. However, until recently, there was no multi-sectoral, inter-agency framework or guidance on mental health and psychosocial support during emergencies.

In 2005, WHO asked the IASC Working Group to establish a task force to address this gap; co-chaired by WHO and InterAction it comprised representatives from 27 international, governmental and nongovernmental organizations. They consulted experts from more than 100 institutions in an effort to reach agreement in an area of humanitarian aid that had until then been without norms and standards. The resulting IASC Guidelines on mental health and psychosocial support in emergency settings are designed to help humanitarian agencies plan, establish and coordinate a set of minimum multi-sectoral responses to protect and improve people’s mental health and psychosocial well-being during emergencies. They provide an integrated framework within which divergent and complementary approaches find a common home.

The guidelines outline minimum responses, i.e, the first steps to take in supporting mental health and psychosocial well-being during an emergency. This
matters because agencies often attempt to set up specialized programmes without checking whether more basic mental health and psychosocial supports are in place. The guidelines also offer advice on facilitating an integrated approach to address the most urgent mental health and psychosocial issues in emergencies. They include a matrix of actions for various sectors during different stages of emergencies, and a set of short action sheets that explain how to implement minimum responses during the acute phase of an emergency. Each of the 25 action sheets includes descriptions of key actions and references to resources materials.

**Communicable Disease Working Group on Emergencies**

The Communicable Diseases Working Group on Emergencies (CD-WGE) focuses on reducing the risk and impact of communicable diseases during and after emergencies. The CD-WGE is coordinated by the Disease Control in Humanitarian Emergencies (DCE) unit based in WHO’s Health Security and Environment Cluster at headquarters. The working group includes WHO experts on disease-specific and cross-cutting areas such as diarrhoeal diseases, acute respiratory infections, malaria, tuberculosis, HIV/AIDS, vaccine-preventable diseases and immunization, viral haemorrhagic fevers/other emerging diseases, meningitis/yellow fever, infection control, water and sanitation, child health, nutrition, injuries/wounds, social mobilization, surveillance/early warning, laboratory, and outbreak response. The CD-WGE sets technical standards for communicable disease control in humanitarian emergencies. Other major areas of work involve the implementation of training courses and field epidemiological support. Regular meetings ensure the provision of technical input across WHO in order to systematically address specific disease epidemiological contexts and improve the efficiency of disease control efforts in emergency settings.

The CD-WGE provides rapid technical and operational support to WHO country and regional offices, and technical assistance to other UN agencies, ministries of health, non-governmental organizations, international organizations and donor agencies. It also provides technical and operational assistance on communicable disease surveillance, monitoring and control in countries affected by long-term conflict, as well in post-conflict settings. The products of the CD-WGE include concise, timely and population-specific profiles of communicable disease risk, which allow for evidence-based decision-making and the focusing of relief efforts on critical immediate actions.

During 2007, the CD-WGE published four key guidelines: a Communicable disease epidemiological profile for the Horn of Africa countries (February); a Communicable disease risk assessment protocol for humanitarian emergencies (June); and two event-specific technical notes - Communicable disease risk assessment and interventions for the flooding disaster in Nepal (August), and for Cyclone Sidr disaster in Bangladesh (November).

In addition, four major training sessions were conducted on communicable disease control in emergencies for senior health staff in various partner agencies: as part of the International Diploma on Humanitarian Assistance (IDHA) (March), ICRC’s Health Emergencies in Large Populations (HELP) course (June), for UNHCR health coordinators (July, October), and the WHO Intensive Course on Communicable Disease Control in Emergencies (December).

**A gender approach to crises**

Crisis affects women and men, boys and girls differently. Data suggest there are differences between the sexes in terms of exposure to risk, risk perception, preparedness, response, physical and psychological impact, recovery and rehabilitation.

Due to social norms and their interaction with biological factors, women and children - particularly girls - may be at increased risk of adverse health effects during crises. They may be unable to obtain safe access to help, and/or to make their needs known. Moreover, women are often insufficiently included in community consultation and decision-making processes, resulting in their needs not being met.

Crisis associated with armed conflicts and the disintegration of communities, families and social structures leave women and girls especially vulnerable to sexual and gender-based violence, including rape by combatants and sexual exploitation by humanitarian actors or an intimate partner or husband. The disruption of already inadequate responses makes access to protection and services even more difficult.

In 2007, WHO continued its normative and capacity-building activities for the integration of gender in
humanitarian work. The WHO/UNHCR Guidelines on the clinical management of rape in emergencies were translated into Arabic. In its role as co-chair of the IASC Sub-Working Group on Gender, WHO led the drafting of the health sector chapter of the IASC Gender handbook in humanitarian action, and helped with its dissemination and translation. WHO also helped establish a roster of gender advisers to support UN country teams in emergencies, and identified ways to strengthen the integration of gender, gender-based violence and women’s health issues in the work of the health cluster. Lastly, WHO trained other health actors on standards for integrating gender and responding to gender-based violence in emergencies.

WHO is also a member of the steering committee of UN Action Against Sexual Violence in Conflict, a new initiative established to improve the United Nations’ overall response at country level. UN Action aims to prevent sexual violence in emergencies; ensure the provision of a comprehensive range of services for survivors of sexual violence; address the longer-term impact of sexual violence on recovery efforts; and advocate for an end to impunity for perpetrators. WHO leads the knowledge-generation activities of the initiative.

On International Women’s Day, WHO’s Assistant Director-General for Health Action in Crises was a keynote speaker at an inter-agency panel discussion held in Geneva on sexual violence in conflict.

**WHO Ethical and safety recommendations for researching, documenting and monitoring sexual violence in emergencies (available in English and French and being translated into Arabic)**

Sexual violence in emergencies is a complex health and human rights problem that is increasingly attracting the attention of humanitarian and human rights actors, researchers, donors, governments, civil society, and others. There are many serious ethical and safety issues that must be addressed when collecting or using information about sexual violence. In 2007, WHO’s Gender and Women’s Health department hosted an expert consultation to develop ethical and safety recommendations to guide researchers in this area.

The recommendations highlight the need to ensure that benefits to respondents or communities are greater than the risks; that basic care and support to victims/survivors are available locally; that confidentiality is protected and informed consent is obtained; and that the safety and security of those involved in information gathering is of paramount importance.

For more information, see [http://www.who.int/gender](http://www.who.int/gender)
Setting the operational platform

Collaboration with the WFP

In 2007, WHO continued to forge a close working relationship with WFP. The organizations have signed two memoranda of understanding, giving WHO priority access to WFP staff and logistics. Through this partnership WHO is now able to take advantage of WFP’s substantial logistics capacity and emergency roster during humanitarian response operations. WHO’s emergency medical supplies are given preferential access in WFP humanitarian cargo planes. Synergy between the two organizations is being further strengthened by joint logistic training programmes and the integration of a health component into the logistics cluster response strategy. Lastly, WFP is funding two experienced WHO logisticians to work in the logistics cluster support cell.

Regional supply hubs

WHO has established regional supply hubs in Dubai, Accra and Brindisi, thus ensuring life-saving medical supplies are constantly available, close to those who need them, and ready for immediate dispatch anywhere in the region. A fourth supply hub is scheduled to open in Subang (Malaysia) in 2008.

Emergency roster

Throughout 2007, WHO continued to develop its roster of pre-screened and medically cleared candidates who can be deployed within 24 hours in the event of an acute emergency. Many candidates have attended WHO’s Pre-Deployment Training course, where they learn the public health, personal and operational skills they need to work as part of public health response teams in emergency settings. To date, nearly 100 people have been prepared for field deployment.

Standard operating procedures for emergencies

The above-mentioned capacities are further strengthened by new Standard Operating Procedures (SOPs) for emergencies, developed in consultation with administrative and technical staff at all three levels of the Organization. In late 2007, WHO conducted the first of a series of workshops to brief and train staff in regional and country offices on how to use the SOPs.

Technical assistance to countries

During the course of the year, logistics staff from headquarters traveled to Burkina Faso, Cameroon, Ghana, Kenya, Lebanon, Kenya, Pakistan, Somalia, Togo and Uganda to assist country offices with the logistics aspects of emergency operations. Headquarters staff carried out logistics assessments, helped monitor relief donations and advised on strengthening WHO’s overall logistics capacity in the field.

Evaluating the Three-Year Programme

WHO’s US$ 30 million institutional capacity-building project – the Three-Year Programme to Enhance WHO’s Performance in Crises (TYP) – ended in December 2007. In order to assess progress and learn lessons for future programming, WHO commissioned an independent evaluation in autumn 2007. The evaluation, managed by WHO and the TYP’s main donors, sought to assess the extent and impact of changes within WHO in the following areas:

- enhanced ability to respond to emergencies;
- improved collaboration with other humanitarian partners;
- streamlined administrative procedures for emergency operations;
WHO - Health Action in Crises
annual report 2007

• better transparency and information flow and a more structured exchange of information and lesson-learning;
• availability of adequate emergency resources (people, equipment, funds);
• Streamlining of emergency issues into other technical areas in WHO;
• Concrete and predictable support to countries for emergency preparedness, response and recovery.

A team of three international experts carried out the evaluation over a nine-week period. After conducting in-depth interviews in Geneva, the team travelled to the field for further evaluation meetings with WHO staff and stakeholders in the Democratic Republic of the Congo, Sudan, the occupied Palestinian territory and Pakistan.

Findings

The team concluded that WHO had come a long way in the last three years, particularly in the areas of information management and coordination. In the four countries visited, humanitarian partners almost unanimously reported significant improvements in WHO’s performance. The message was clear: WHO has become an indispensable actor in the humanitarian field.

At global level, WHO is perceived by external counterparts to be taking its new role of Health Cluster lead seriously. At country level, recommendations from previous evaluations were being satisfactorily addressed. The team commended the competence and dedication of the WHO staff encountered in the field, while finding that on-the-job training required strengthening in some places. The most critical failure is in the retention of good staff, both international and national. Poor contractual conditions are not conducive to reliable and high-quality work.

With respect to external collaboration, there remains some confusion at field level about what humanitarian activities should be covered by WHO at field level and which could be best done by other agencies. Internally, the team noted an appreciable overall improvement in HAC’s collaboration with other technical departments at different levels.

The TYP evaluation stresses the crucial need for non-earmarked predictable funding to strengthen WHO’s humanitarian role. WHO is an indispensable partner in the health sector but does not have a buffer of flexible funding compared to other UN partners.

In summary, the evaluation found the TYP funds had been well invested and had produced a tidal wave of change at all levels in WHO’s organizational culture and approach to humanitarian action. The shift from a relatively introspective technical agency to a quasi-operational agency, with an “open door policy” has been remarkable and has exceeded the expectations of donors and partner agencies alike.

The report provides clear recommendations for both WHO and donors. A number of the recommendations have already been acted on. The remainder will help guide WHO’s emergency work in the coming months and years.
Funding

The international response to crises largely depends on emergency donations of funds and goods. The following section provides an overview of emergency funds received by WHO during 2007.

Funding for Health Action in Crises has steadily increased in the past years. In the biennium 2006-2007 WHO received voluntary contributions of over US$ 370 million for Health Action in Crises work. This amount exceeded by far the US$ 100 million originally budgeted. This increase may be explained by the expansion of WHO’s work in the last years, especially at country level, and the new responsibilities acquired by the Organization within the framework of the Humanitarian Reform.

Most of the voluntary funds received have been allocated to country operations. The main recipients were EMRO, with 49.5% of the funding, the AFRO with 23.5%, and SEARO with around 13.5%; EURO received over 1%, AMRO close to 1%, and WPRO 0.6%. Global activities have received around 10.5% of the funds.

The CERF has become WHO’s main single donor. In 2006-2007 WHO received grants for a total of US$ 63 million, out of which over 5 million have been passed through to partners. CERF funds supported emergency health activities in 41 countries.

Although CERF funds have been instrumental in boosting WHO’s operations in countries in crisis, CERF funding is tightly earmarked to life-saving activities and has a short implementation period. Therefore additional flexible funding is needed to sustain health interventions once the acute phase is over. Voluntary contributions from member states continue to be the largest source of funding for WHO’s work in humanitarian emergencies.

Strategic Objective Five: additional resources allocated to crisis work

In 2007 the World Health Assembly approved the WHO Medium Term Strategic Plan for 2008-2013. This global planning tool has identified 13 priority areas for the Organization. Of those, Strategic Objective Five focuses on Reducing the health consequences of emergencies, disasters, crises and conflicts, and minimizing their social and economic impact.

The planned budget for this area of work for 2008-2009 is US$ 218.4 million. This means a two-fold increase of the budget for 2006-2007. The allocation of
resources from WHO’s regular budget for this area of work has also doubled. This has increased from US$ 9.8 million in 2006-2007 to 17.6 million in the 2008-2009 biennium. This decision, together with the Director-General’s decision to upgrade Health Action in Crises to the status of Cluster within WHO’s headquarters structure, shows the Organization’s commitment towards humanitarian health action.

**Challenges for 2008**

Although WHO’s funding for Health Action in Crises has significantly increased, in the last two years, the Organization has acquired new responsibilities as a result of the Humanitarian Reform which require additional capacities. WHO has been appointed leading agency for the global humanitarian health cluster, and leads or co-leads the health cluster in a number of countries. To fulfil this crucial role WHO needs to continue to strengthen its institutional capacity at global, regional and, especially, at country level, where the front line of cluster work lays. Most of the funding received by WHO in the past years is tightly earmarked for specific activities at country level. Additional flexible funding to sustain and step-up WHO’s core activities and presence in countries will be sought during 2008.

**The way ahead**

Hazards cannot be avoided but their health impact can be substantially reduced with careful planning. In the long run, investing in preparedness is more cost-effective than focusing on response and rehabilitation after the fact. In 2008 WHO will implement its six-year strategy to help Member States build their emergency preparedness capacity.

In parallel, WHO will continue to build its emergency response capacity by continuing to strengthen relationships with key partners; expanding its operational platforms; testing and improving its standard operating procedures for emergencies; and negotiating standby agreements for the rapid deployment of emergency staff.

WHO will also continue to fulfil its commitments as a member of the Inter-Agency Standing Committee (IASC) and the lead agency of the IASC Health Cluster. WHO will be responsible for overseeing the roll out of the cluster approach in additional countries in 2008.

Lastly, and most crucially, WHO will work with its donors to secure the flexible funds needed to enable it to offer stable employment contracts to the staff who need them most – those in the field, at the forefront of WHO’s humanitarian action.
Contacts

Health Action in Crises
World Health Organization
20 Avenue Appia
1211 Geneva 27, Switzerland
Phone: (41 22) 791 21 11
Fax: (41 22) 791 48 44
email: crises@who.int
www.who.int/disasters

Regional Office for Africa (AFRO)
Emergency and Humanitarian Action
BP 06
Brazzaville
Republic of Congo
Phone: (47) 241 39100
Fax: (47) 241 39501
email: khatibo@afro.who.int
www.afro.who.int

Regional Office for the Eastern Mediterranean (EMRO)
Emergency Preparedness and Humanitarian Action
WHO Post Office
Abdul Razzak Al Sanhouri Street, (opposite Children’s Library)
PO Box 7608 Nasr City
Cairo 11371, Egypt
Phone: (202) 276 50 25
Fax: (202) 276 54 22
email: eha@emro.who.int
www.emro.who.int/eha

Regional Office for Europe (EURO)
Disaster Preparedness and Response
8, Schæffergade
2100 Copenhagen O,
Denmark
Phone: (45) 39 17 17 17
Fax: (45) 39 17 18 18
email: gro@euro.who.int
www.euro.who.int/emergencies

Regional Office for the Americas (AMRO)
Emergency Preparedness and Disaster Relief
525, 23rd Street, NW - 9th Floor
Washington, DC 20037
USA
Phone: (202) 974 3000
(PAHO’s Switchboard)
or (202) 974 3531
and (202) 974 3434
Fax: (202) 775 4578,
or (202) 974 3176
email: disaster@paho.org
www.paho.org/disasters

Regional Office for the Western Pacific (WPRO)
Emergency and Humanitarian Action
PO Box 2932
1000 Manila
Philippines
Phone: (632) 528 8001
Fax: (632) 526 0279
or (632) 521 1036
email: pesigana@wpro.who.int
www.wpro.who.int

Regional Office for South-East Asia (SEARO)
Emergency and Humanitarian Action
World Health House
Indraprastha Estate
Mahatma Gandhi Road
New Delhi 11 0002
India
Phone: (91 11) 23 37 0804
Fax: (91 11) 23 37 0197
email: salunkes@searo.who.int
www.searo.who.int

Photocredits:
Nathaly Bavitch / WHO
Chris Black / WHO
J.G. Brouwer / WHO
Candace Feit / IRIN
Torgrim Halvari / WHO
Jim Holmes / WHO

International Federation of Red Cross and Red Crescent Societies
Shazad Khan / WHO
Marko Kocic / WHO
Peter Koopmans / WHO
Richard Lough / IRIN
Jose Rovira Vilaplana / WHO