

***Extract from the report on the health response to the earthquake in Chile (translation from Spanish)***

In response to the disaster, PAHO/WHO immediately mobilized its regional response teams for disasters, which cooperated with the Ministry of Health in the assessment of health facilities, identification of needs, design plans emergency mitigation of earthquake effects on public health and support rapid recovery of the operational capacity of health facilities.

Based on damage assessment and needs analysis, PAHO/WHO mobilized international resources to develop and implement emergency projects, and received just over US\$ 3 million from CERF funding, ECHO, the Canadian International Development Agency (CIDA) and cooperation of companies from Japan and Mitsubishi EISAI. These funds PAHO/WHO raised US\$ 10,823, 965 strengthen immunization programs.

***Social communication***

In coordination with the Office of Communications at Ministry of Health, PAHO/WHO supported the design and printing of 30,000 copies of guidelines for disease prevention associated with the earthquake and tsunami, which were distributed among the population of the regions of Maule and Bío Bío.

In May, a national workshop was held with the participation of health communicators and journalists in the affected regions, to adjust how to best disseminate the information on activities that were taking place.

To encourage the population to take charge of health issues and prevent disease, PAHO/WHO supported the production and distribution of 20,000 leaflets on pneumococcus and influenza immunization, 50,000 flyers advising on the safe preparation and handling of food, and 1000 flyers on the 5 key issues in the handling of foods.

Additionally, health personnel were provided with 1000 copies of a guide on environmental health management in hospitals.

During the emergency, the PAHO/WHO country office agency created a web page to provide information on activities and to disseminate press releases on key issues of cooperation in the framework of emergency projects. Notably, in June, as part of the visit of the PAHO/WHO Director a meeting was convened with the participation of ambassadors from foreign

governments, international organizations and the press, during which the Ministry of Health and PAHO/WHO detailed the actions being undertaken in response to the emergency.

### ***Coordination and field operations***

PAHO/WHO supported the Ministry of Health with the mobilization of field personnel to assess the recovery progress of health facilities, and the Institute of Public Health to assess the biological, radiological and occupational hazards. It has also provided technical cooperation to the Department of Emergencies and Disasters in the formulation of a national disaster plan, the development of policy documents on alert and the functioning of emergency committees, and the strengthening of hospital disaster plans.

### ***Mobilization of experts***

From the earliest days of the earthquake, PAHO/WHO cooperated with Ministry in the mobilization of international experts in hospital evaluation, environmental health, coordination, communications, hospital solid waste disposal, safe food, and mental health. The experts worked together with health officials in the design and/or implementation of plans and visited the region to conduct assessments at health establishments and to provide technical assistance to local staff.

Experts in hospital evaluations conducted assessments of damaged infrastructure, and also participated in two training workshops on the implementation of the Hospital Safety Index for more than 80 professionals from the Ministry.

highly appreciated. Two PAHO/WHO mental health experts, in coordination with the mental health department, evaluated psychiatric services and the mental care network that had been severely affected by the earthquake. They made recommendations for redesigning the care model with a view to the reconstruction process.

### ***Environmental Health***

The Ministry and PAHO / WHO worked together since the first weeks of in the preparation of an Action Plan for Environmental Health would support the emergency response. The support of PAHO / WHO activities focused on strengthening vector control and surveillance of water food and solid waste disposal, as well as the provision of facilities for disposal of solid waste and excreta.

Environmental monitoring actions and control were supplemented with workshops in the regions of O'Higgins, Maule, Bío Bío and Metropolitan to strengthen levels of coordination for needs assessment, monitoring actions, and monitoring of interventions in different environmental health components. Part of it was conducting a national workshop with the presence of Ministry

officials, and SEREMIS regions VI, VII, VIII and IX, with the aim of coordinate actions in the field to meet the needs of the population in towns and camps.

### ***Safe Water***

Laboratory equipment for environmental sanitation was provided and 420 chlorine comparators were delivered to the SEREMIS in Valparaíso, O'Higgins, Maule and Bío Bío for monitoring water quality in villages and camps where 7,560 people live. In addition, adequate support for water storage was given with the delivery of 26 5400-liter tanks; 20 for Bío Bío and 6 for O'Higgins, that served 4,000 people.

### ***Vector Control***

Thermo-nebulizers, sprayers, personal protective equipment, and supplies for rodent and mosquito control were donated to protect 3.7 million people in the regions of Valparaíso, Metropolitan Area, O'Higgins, Maule and Bío Bío.

### ***Disposal of solid waste and excreta***

Actions were focused on villages and camps, to ensure proper home storage of solid waste. For this 25 garbage containers with 1000-liter capacity were donated for 2,000 people in O'Higgins and 16 containers for 4,620 people in Bío Bío. In addition, 30 240-liter containers were donated to serve 1,685 people in Maule. On the other hand, surveillance activities for the operation of landfills were strengthened with the delivery of six methanometers to the Ministry of Health and the SEREMIS of Valparaíso, O'Higgins, Maule and Bío Bío.

The evaluation of hospital waste management was of particular interest. An international expert was mobilized to cooperate with the Ministry of Health on solid waste management in health facilities. Workshops were held to build capacity with the SEREMIS in regions VI, VII and VIII. In addition 1,100 sharp disposal containers were donated to Maule, Bío Bío, South Araucanía.

### ***Monitoring food safety***

An international expert was mobilized to help the Health Ministry in the monitoring of food quality. In addition, workshops were held with health staff in Talca and Rancagua. Instruments, accessories and material for the monitoring of food were donated in Arauco, Concepcion, Talcahuano, Ñuble, Bío Bío and Talca.

### ***Mental Health***

PAHO/WHO supported the implementation of a mental health plan in response to the emergency. Priority was given to cooperation to strengthen mental health response teams

through the design and development of four online modules, with content specifically designed for personnel dealing with psychosocial health problems during emergency situations. This distance-learning strategy was developed by the Catholic University.

As part of the direct intervention, radio information, intended to mitigate the impact of the disaster in the psychosocial behavior of the population in the affected regions, was broadcast in Bio Bio for 45 days. And in Villamar, a town in Talcahuano, Concepción University, with support from PAHO/WHO, developed and implemented mental health interventions for children and the adolescent population.

Other important activities included two national workshops, the first to coordinate emergency response, and the second to systematize the experiences of the intervention at the level of the regions, a document was prepared after the second one that outlined the actions undertaken in the field and the lessons learned.

### ***Health Services***

Shortly after the earthquake, PAHO/WHO made available to the Ministry of Health, international experts on hospital assessments. These professionals were mobilized to the country to accompany teams and to work in building capacity for the assessment of facilities with a safe hospital point of view. The evaluations conducted by the Ministry and PAHO/WHO identified as urgent the recovery operational capacity of the affected hospitals, and the strengthening of other facilities close to the epicenter, so that they could receive patients from areas where hospitals were out of service.

### ***Biomedical and industrial equipment***

PAHO/WHO supported the recovery of health facilities with equipment delivered to replace those damaged by the earthquake and the strengthening of priority areas such as emergency rooms, imaging, laboratory, surgery, maternal and newborn care. In total, 34 hospitals, 4 health care facilities and 2 SAMU (primary health care) received medical and laboratory equipment, of these 19 are in Bío Bío, 13 in Maule and the remaining 8 in the Metropolitan Area and Araucanía. This intervention provided 3.2 million people with appropriate and timely health care facilities in their communities, and reduced the risk of death and morbidity during the emergency transportation of newborns, diseased patients, and the wounded.

PAHO/WHO purchased and installed generators at eleven hospitals and two primary care facilities, 6 are Bio Bio, 5 in Maule, 1 in Valparaíso and 1 in the Metropolitan Area. These industrial-strength generators had capacities that went from 40 kVA. to 300 kVA. They were installed in high-complexity hospitals, which ensured the operation of critical services such as

sterilization, laundry, cold chain and other important areas to ensure continuity of operations in establishments that served more than 2.8 million people.

### ***Interventions in Primary Health Care***

The Medical College of Chile, with the cooperation of PAHO/WHO, implemented a project in the municipality of Talcahuano with the aim of building the capacity of 250 community leaders to provide self-care, psychological first aid and develop emergency plans. This initiative helped to strengthen the community organization which is in direct contact with primary health care services, integrating the community in the post-emergency recovery process.

### ***Minor repairs to hospitals***

PAHO/WHO focused their support to small-scale interventions that were not included in major and minor repair plans being implemented by the Ministry of Health. It was considered that it was important to support the recovery of the radiation therapy service of the Gran Benavente Hospital in Concepción, with the repair of the stretcher, console, climate system, and hand control of the cobalt-therapy equipment. Three months after it had stopped working, the service was continued, providing urgent care to the 100 patients that were on waiting list since the disaster, and ensuring services to a potential two million more.

The neonatology services in the Molina hospital were also rehabilitated, and the generators acquired for the Hualañe, Molina, Linares, Chillan, Cañete, and Tlacahuano Sur hospitals were put in service.

### ***Radio communications***

PAHO/WHO purchased and installed 29 sets of radiocommunications equipment, including two transmitters for the hills of Talcahuano and Lebu, 12 HF sets and 15 VHF sets for hospitals, primary health care centers, SAMU and health services in Valparaiso, Maule, Bio Bio, and Araucania. This intervention helped to restore the Ministry's national network, ensuring connectivity between the local and central levels with the health facilities of the disaster areas. In addition, the transmitters allow the health sectors of Arauco and Concepción to maintain their local network in their areas of service with health facilities and ambulances.

### ***Vaccines and drugs***

PAHO/WHO supported the strengthening of the immunizations program with the acquisition of a mobile unit that allowed to reach vulnerable populations and areas affected by the disaster. This ensured the continuity of the immunization program, and the delivery of vaccinations against Hepatitis A, influenza, rotavirus, and pneumococcus. In addition, PAHO/WHO helped in the mobilization and delivery to the country of 10,000 doses of rabies vaccine, donated by the

Butantan Institute (Brazil), 1.2 million doses of A H1N1 from WHO, 175,000 doses of Hepatitis A vaccine and 7000 doses of pneumococcus vaccines delivered by laboratories (Sanofi Pasteur, Glaxo Smith Kline and Pfizer).

Medicines were also procured for the treatment of those affected by the emergency, including three types of drugs for acute respiratory infections, ensuring their availability for a month in health establishments in Arauco, Bio Bio, Concepción and Maule.

### *Epidemiological surveillance*

The epidemiological surveillance system in the disaster areas was supported through the recovery and strengthening of the liaison centers in Concepción, Constitución and Talca. Information management and teleconference equipment was delivered so that these areas could communicate with the national level and other regions. In addition laboratory equipment, material and supplies were delivered to the Public Health Institute to strengthen the identification of bacteria and viruses responsible for gastrointestinal diseases, related to contaminated water and food.

Today, considering the experience acquired through the emergency response, the Ministry of Health, with the cooperation of PAHO/WHO, is finishing guidelines for post-disaster epidemiologic surveillance, which will be of help in future emergencies and disasters.