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Earthquake in El Salvador

Consolidated Request for Humanitarian Assistance through PAHO/WHO

Revised 17 January 2001

Amount: US\$1,750,000

On January 14, the day after the earthquake, PAHO/WHO issued an appeal for US\$770,000, based on a very preliminary assessment of health sector damages and needs, conducted just hours after the earthquake.

Four days later, a more accurate picture is emerging in the health sector. Most notably are the importance of maintaining and strengthening immunization and the restoration of the cold chain, and an assessment of necessary emergency rehabilitation measures in health facilities.

The following consolidated and revised appeal reflects these emergency needs for PAHO technical support now estimated at US\$1,750,000. Additional needs, such as for the rehabilitation of health facilities, will be the object of specific projects as they are identified.

Background

On Saturday, 13 January, a strong earthquake measuring 7.6 on the Richter scale struck El Salvador with such magnitude that it was felt in neighboring Honduras and Guatemala and as far north as Mexico City. Statistics on deaths, injuries and missing from El Salvador's Emergency Committee (COEN) have steadily increased and are now placed at 700 dead, 2500 injured and 45,000 homes damaged. Some estimates place the number of missing at more than 1,000.

The earthquake occurred slightly more than two years after Hurricane Mitch left a deep impact on Central America, including El Salvador. In addition, serious (but unrelated to Mitch) outbreaks of communicable diseases have and continue to strain the country's health resources. All together, the vulnerability of the country and its health institutions is high. But on the positive side, the health sector has recently strengthened its national disaster program by adding new personnel.



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Medical Attention and Hospitals

El Salvador's Ministry of Health, with PAHO/WHO's support conducted a preliminary assessment of conditions in hospitals located in the most affected areas. The San Miguel and the San Rafael Hospitals were the hardest hit, and both sustained serious damages. Eight hospitals in all were evacuated, some primarily as a preventive measure. An estimated 800 beds were initially reported unavailable when they were most needed. However, the figures have been revised upwards and now place the number of lost beds at 1,350.

The following chart lists the initially reported damages to hospitals (source: Ministry of Health):

Key: S/N - no data available; NO - not evacuated; * - evacuated**

NAME OF HOSPITAL	NO. EVACUATED	NO. INJURED	DEATHS	REFERRED	CONDITION
HNBB	***				Not damaged, evacuation as security measure
NEUMOLOGICO	***	20	1		Not damaged, evacuation as security measure
ZACAMIL	S/D	72		To Hospital San Rafael and Militar Central	Full
SAN BARTOLO	S/D	70	2	8	21 adult beds available; 5 for children; 8 surgical beds.
PSIQUIATRICO DE SOYAPANGO	S/D				No damages. Can accept patients. 14 beds for children available; 17 for adults. Two operating theaters Two anesthesiologists
SONSONATE	NO	195			Operating room has been readied.
SAN MIGUEL	S/D				Moderate damages
ZACATECOLUCA	***	91	2		Moderate damages
SAN MIGUEL	***				
NUEVA GUADALUPE	***	15			Water pipes damaged
CHALATENANGO	S/D				Cracked walls
USULUTAN	***	S/D			
SANTIAGO DE MARIA	***				
SENSUNTEPEQUE					One operating room and 16 adult beds available.
MORAZAN	NO				
LA UNION	NO				
COJUTEPEQUE	NO				Maternity ward closed because of the risk. Two children's and two adult beds available. One operating room and two 2 anesthesiologists
SANTA TECLA	***				Damaged
CHALATENANGO	NO				22 beds available

PAHO has sent three disaster mitigation engineers who, in collaboration with the national counterparts, will help to determine the extent of the needs for immediate assistance. The priorities are as follows:

- to assess the safety of the hospitals in order to resume operations as soon as possible
- to identify interim measures to restore the minimum capacity to affected facilities.

As usual in Central America, neighboring countries displayed a great solidarity and immediately sent health professionals, equipment and mobile facilities. Although these mobile facilities are no substitute for normally operating health services, they are sufficient to respond to life saving needs.

As a policy, PAHO/WHO discourages sending mobile field hospitals and medical teams except from other than the closest of geographical neighbors sharing the same culture and health approach, because they are costly, difficult to transport and arrive too late to make a difference in terms of saving lives. The high cost of this type of aid (which also quickly depletes the donor's budget) would be better invested in medium-term needs that often go unmet once public attention wanes. (For more information on best donations practices, consult the guidelines on PAHO's web site at www.paho.org - click on the Earthquake in El Salvador.)

Communicable Diseases

For cultural reasons, the presence of dead bodies is often a cause for concern among the affected population. However, it does **not** represent a significant public health risk. Much more serious and worrisome is the pre-existing situation in El Salvador with regard to gastroenteritis and dengue hemorrhagic fever.

El Salvador was experiencing a major outbreak (more than 5,000 cases) of retrovirus gastroenteritis (diarrheal disease) prior to the earthquake. Easily transmissible through water, food or direct contact, this outbreak might be exacerbated by breakdowns in water quality control and the overall sanitation. Similarly, improper solid waste control in earthquake-affected areas could contribute to the proliferation of the vectors responsible for the dengue epidemic, which in 2000 was a serious threat to population.

It is, therefore, imperative to strengthen the syndrome/symptom-based surveillance system and improve the readiness of the laboratory network. More than ever, it is critical to implement a health education campaign announced by the Ministry of Health just a few days before the earthquake. The proposed messages are particularly relevant to an emergency resulting from a natural disaster.

As is often the case, the main health impact of a disaster such as this earthquake is not limited to trauma injuries--a problem that is attended to in a matter of days--but also includes the threat that it poses to the fragile achievements in the field of communicable diseases. For the medium-term (3-6 months) an international health expert experienced in communicable diseases, diarrheal diseases and integrated management of childhood illnesses (IMCI) will be recruited for two months to

- monitor the implementation and surveillance of diarrheal diseases (cholera and rotavirus) and other communicable diseases transmitted by vectors and carriers (leptospirosis) including dengue and dengue hemorrhagic fever
- provide technical expertise in clinical case management of patients at health facilities and at the community level

- pursue more aggressively all operational aspects of country communicable disease prevention and control activities, including promoting IMCI activities.

The eradication of measles is another example. It is imperative that an immunization campaign, which was scheduled prior to the earthquake for 22 January 2001, be pursued, in spite of the current sudden drain on health resources caused by the emergency response.

Mental Health and Posttraumatic Stress

Earthquakes leave a profound mark on the psychological health of the affected population. The sequela are particularly serious when survivors cannot ascertain the fate of their missing relatives and/or cannot observe cultural/religious rites for the deceased. The number of houses buried by the landslide, as well as the range of uncertainty regarding the number of missing, can be an indicator of forthcoming serious posttraumatic stress syndrome in the surviving population.

Teams of psychological experts, training for staff and therapy for the victims will be among the main priorities within a matter of weeks.

Supply Management

The Government of El Salvador (at the multisectoral level) asked for support of SUMA, the humanitarian supply management system, to assist with the anticipated influx of donations. Two SUMA specialists will assist the National Emergency Committee and the health sector.

The problem is particularly acute given the attention that this disaster has received. Following the 1986 earthquake in El Salvador, the management of donations (many of them unrequested and inappropriate) was one of the most sensitive issues. Following Hurricane Mitch, El Salvador made excellent use of the lessons learned and implemented the SUMA system, thanks to the support of the international community.

PAHO/WHO Technical Cooperation

The PAHO/WHO Representation in El Salvador is actively coordinating with the health authorities and the National Emergency Committee (the equivalent of Civil Protection) and the UN Coordinator. Functions include:

- Technical advice on the most effective emergency response and needs assessment, both local and international
- Expertise in disaster management, monitoring of communicable diseases, water and sanitation, mental health, etc.
- Analysis of the structural safety of health facilities
- Coordination of international health assistance from abroad

- Inventory and classify donations through the SUMA system
- Other technical forms of assistance as requested.

In addition to the PAHO health and disaster experts already working in El Salvador, experts are being dispatched from neighboring PAHO/WHO offices or countries.

An advance of US\$50,000 was approved for the local purchase of medical/surgical supplies and other items.

Two disaster coordinators and one mitigation officer from PAHO's regional Emergency Preparedness Program are assisting the PAHO/WHO Office in El Salvador. Additional international staff will be assigned to implement relief activities as requested by the country and funded by the international community.

Annex
INFORME PRELIMINAR
Evaluación de daños en establecimientos de salud
16-Enero-2001

El día 16 de Enero del presente año personal de la OPS/OMS, del departamento de Ingeniería del Ministerio de Salud de El Salvador y los respectivos encargados de mantenimiento se visitaron el hospital san Juan de Dios de la ciudad de San Miguel y el Hospital Nacional San Pedro de la ciudad de Usulután.

Si bien la visita a ambos hospitales permiten tener conclusiones contundentes sobre los mismos, dichas conclusiones aún no pueden ser generalizadas para el resto de los establecimientos de salud afectados por el terremoto del 13 del presente mes, por lo cual se tiene planificado el día de mañana visitar a lo menos 3 hospitales más a fin de generar recomendaciones generales para la recuperación de dicha infraestructura.

A continuación se hace un resumen de los aspectos más importantes detectados durante la inspección realizada a dichos establecimientos de salud.

Hospital San Juan de Dios – Ciudad San Miguel

El hospital esta bajo la administración del Ministerio de Salud, salvo el sexto piso que esta bajo la administración del Instituto Salvadoreño del Seguro Social (ISSS).

Este hospital en tiempos normales contaba con una dotación de 400 camas censables, para las 18 especialidades que contaba el hospital.

Actualmente el hospital se encuentra evacuado y sólo siguen funcionando algunos de sus quirófanos. Se ha implementado un hospital de campaña en las inmediaciones de la entrada a emergencia de dicho hospital, que esta orientado a atenciones gineco-obstetras y de medicina (hombres y mujeres), así como algunas atenciones de pediatría.

Servicios de lavandería, laboratorio y otros servicios de apoyo se están realizando actualmente en galpones que contaba el hospital para estacionamientos y otros fines.

Evaluación de daños

El hospital actualmente cuenta con el normal suministro de agua, energía eléctrica y comunicaciones.

El hospital es una estructura de 6 pisos, compuesta de 5 bloques (edificios) principales separados por sus respectivas juntas de dilatación.

No existen componentes estructurales dañados que comprometan la estabilidad de la estructura. Sin embargo se presentan algunos antecedentes que hacen pensar en la posibilidad de que se

hubiesen presentado algunos asentamientos en las fundaciones que si bien no comprometen la estabilidad de la estructura, sería recomendable verificar con estudios complementarios.

Los principales daños se encuentran en los elementos no estructurales, que típicamente se presentan en este tipo de eventos, tales como:

- Caída de cielos falsos en algunas zonas de circulación y juntas de dilatación sísmica;
- Agrietamiento vertical de algunas tabiquerías (muros divisorios) atribuibles a la interacción de las columnas con dichos muros, pero en su mayoría no comprometen la estabilidad de dichas tabiquerías;
- Desprendimientos de repellos (estucos) en columnas, vigas y tabiquerías;
- Escasas caídas de luminarias en algunas zonas de circulación;
- Roturas de tuberías de agua potable, las mismas que están siendo reparadas en la medida que son identificadas;
- Rotura de vidrios externos y algunos internos ubicados en el servicio de neonatología;
- Los ascensores están fuera de servicio y son utilizados ocasionalmente solamente para movilizar algunos insumos (camas, equipos portátiles de rayos X, etc.)

No se reportan daños en equipamiento hospitalario, farmacia y otros insumos hospitalarios.

El hospital actualmente se encuentra evacuado y su capacidad de resolución es prácticamente nula, por lo cual los pacientes son derivados a otros hospitales del Ministerio de Salud y el ISSS.

Las atenciones que prestaba el ISSS en este hospital han sido derivadas a la Unidad Medica que contaba el ISSS en esta misma ciudad, la misma que no sufrió daños debido a que se trata de una edificación de un sólo nivel.

Hospital Nacional San Pedro – Ciudad Usulután

El hospital esta bajo la administración del Ministerio de Salud.

Este hospital tiene una capacidad para 200 camas, pero normalmente funcionan alrededor de 150.

Actualmente el hospital se encuentra evacuado completamente, para la atención de urgencias se ha habilitado el edificio de un piso usado como jardín infantil. Otros servicios tales como gineco-obstetricia (durante la visita se pudo constatar que los partos son realizados en una de las carpas habilitadas), de medicina (hombres y mujeres), neonatología, encamados de cirugía se encuentran funcionando en un hospital de campaña habilitado en una cancha de fútbol ubicada en el mismo terreno del hospital.

El hecho de haber ubicado el hospital de campaña en dicho lugar, hace que las diferentes carpas estén expuestas constantemente al los rayos del sol lo que eleva la temperatura en su interior, situación que se vuelve crítica para los neonatos.

Evaluación de daños

El hospital actualmente cuenta con el normal suministro de agua, energía eléctrica y comunicaciones.

El hospital es una estructura de 5 pisos, compuesta de 3 bloques principales separados por sus respectivas juntas de dilatación.

No existen componentes estructurales seriamente dañados que comprometan la estabilidad de la estructura. Sin embargo algunos columnas del 1^{er} y 2^{do} piso presentan algunas grietas por esfuerzo cortante, pero habría que verificar si dichas grietas son solamente de los estucos o comprometen al elemento estructural (columnas). De comprometer a las columnas, dichas grietas por sí solas no representan un riesgo para la estabilidad de la estructura para su inmediata ocupación.

Los principales daños se encuentran en los elementos no estructurales, que al igual que el otro hospital evaluado se presentan en:

- Caída de cielos falsos en algunas zonas de circulación, pero especialmente en juntas de dilatación sísmica;
- Agrietamiento vertical de algunas tabiquerías atribuibles a la interacción de las columnas con dichos muros, pero en su mayoría no comprometen la estabilidad de dichas tabiquerías, salvo una tabiquería que debería ser removida en el servicio de pediatría;
- Desprendimientos de repellos en columnas, vigas y tabiquerías (uno de los quirófanos deben ser reparado antes de su uso);
- Roturas de tuberías de agua potable;
- Los ascensores están fuera de servicio.

No se reportan daños en equipamiento hospitalario, farmacia y otros insumos hospitalarios.

El hospital actualmente se encuentra evacuado y su capacidad de resolución es prácticamente nula, los pacientes son derivados a otros hospitales del Ministerio de Salud.

Conclusiones y recomendaciones

Ambos hospitales, por no presentar daños estructurales que comprometan su estabilidad pueden ser utilizados normalmente luego de realizar las siguientes actividades:

- Remoción de escombros y limpieza general del hospital;
- Retirar los estucos que fueron dañados, pero siguen adheridos a los elementos estructurales (columnas y vigas) y tabiquerías, que debido a su actual inestabilidad podrían caer por efecto de las réplicas del terremoto que hasta el día de hoy se siguen presentando;
- Remoción del cielo falso en las zonas donde han perdido el sustento;
- Elaboración de un diagnóstico preliminar sobre la seguridad de las instalaciones por escrito para cada uno de los pisos y servicios clínicos y de apoyo, que permita a los directores de los hospitales y autoridades centrales del Ministerio de Salud habilitar parcial o totalmente al hospital;
- Evaluación y posible reparación de los daños en los ascensores, que permita los desplazamientos verticales al interior del hospital;

- Reparación de las fugas del sistema de agua;
- Sensibilización del personal del hospital a cerca de la seguridad de la estructura, a fin que los mismos se sientan seguros en la instalación.

Actividades que podría emprender la OPS/OMS

Según lo planteado anteriormente la OPS/OMS estaría en condiciones de ejecutar las siguientes actividades:

- Finalizar la inspección, junto a personal del Ministerio de Salud, del resto de las instalaciones de salud reportadas como dañadas. (se tiene previsto finalizarlas antes del 18 de Enero)
- Conformación de equipos de trabajos con consultores internacionales y nacionales, para la elaboración de los diagnósticos preliminares sobre la seguridad de los hospitales.
- Generar proyectos para canalizar ayuda externa que permita realizar el resto de las actividades planteadas en las conclusiones y recomendaciones.

APPEAL FOR INTERNATIONAL ASSISTANCE THROUGH PAHO/WHO

REVISED 17 JANUARY 2001

Type of Assistance Activities through Sept. 2001	Amount in US\$ ** (revised)
Medical Supplies <ul style="list-style-type: none"> ▪ surgical material, emergency pharmaceuticals and other essential medical equipment 	\$50,000
Water and Sanitation <ul style="list-style-type: none"> ▪ assessment of damages and mobilization of experts ▪ supplies for emergency repairs of water distribution system ▪ water treatment and temporary distribution ▪ sanitation and solid waste disposal ▪ food protection ▪ vector control ▪ zoonosis control 	\$550,000
Epidemiological Surveillance and Control of Diarrheal Diseases <ul style="list-style-type: none"> ▪ surveillance ▪ essential laboratory supplies, including glassware and reagents 	\$250,000
Strengthening of Immunization and Restoration of Cold Chain <ul style="list-style-type: none"> ▪ Provide vaccines and logistical support ▪ Restore/improve the cold chain where needed 	\$200,000
Support for Management of Humanitarian Supplies <ul style="list-style-type: none"> ▪ logistic expertise, equipment and supplies ▪ SUMA support to National Emergency Committee to strengthen transparency in the donation process 	\$85,000
Hospital Safety Assessment and Rehabilitation <ul style="list-style-type: none"> ▪ analysis of structural/non-structural safety of damaged health facilities (ongoing) ▪ emergency rehabilitation of key facilities ▪ replacement of critical equipment and supplies ▪ institutionalization of the process in COEN and Ministry of Health 	\$555,000
Mental Health and health Communications <ul style="list-style-type: none"> ■ consultants, support and training, and media materials 	\$60,000
Total	\$1,750,000
Pledged through 16 January	\$1,050,000
BALANCE	\$700,000

** The proposed amount for each activity is indicative. The consolidated assessment of needs and formulation of priorities, expected to last for several weeks, as well as the implementation capacity of the health services, may affect the actual disbursement distribution.