



Pan American Health Organization



Regional Office of the
World Health Organization

<http://www.paho.org>

The WHO Safe Hospitals Initiative

Dr. Ciro Ugarte
Emergency Preparedness
and Disaster Relief



The problem

- More than 67% of the nearly 18,000 hospitals are located in areas at higher risk of disasters.
- Hospitals are a huge investment and represent more than 60% of the Ministries of Health Budget.
- Hundreds of them are destroyed as a result of major earthquakes, hurricanes, and floods, causing massive impact in health care and enormous economic loss for the health sector.

Hundreds of hospitals and thousands of other health facilities are affected by natural phenomena

EARTHQUAKES

- Peru, 1970
- Nicaragua, 1972
- Guatemala, 1976
- Mexico, 1985
- Colombia, 1999
- El Salvador, 2001
- Peru, 2007
- Haiti, Chile, Mexico, 2010

HURRICANES

- Jamaica, H. Gilbert, 1988
- Dominican Republic, H. Georges, 1998
- Honduras and Nicaragua, H. Mitch, 1998
- Grenada, H. Ivan, 2004
- United States, H. Katrina, 2005
- Guatemala, H. Stan, 2006
- Nicaragua, H. Felix, 2007
- Cuba, H. Gustav & Ike, 2008

OTHER PHENOMENA

- Colombia, volcanic avalanche, 1985
- Peru & Ecuador, El Niño Phenomenon, 1997
- Argentina, floods, 2003
- Haiti & Dominican Republic, landslides, 2004
- Mexico, floods, 2007
- Mexico, Chile, Argentina, Pandemic H1N1 2009
- Brasil, Colombia, floods 2010, 2011



From

**Vulnerability Reduction in Health
Facilities**

to

Safe Hospitals

Safe Hospital

- Is a health facility whose services remains accessible and functioning, at maximum capacity and in the same facility immediately after a large-scale disaster or emergency.
- The key issue is in the level of protection!



Levels of Protection

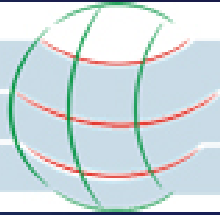
- I. Life Protection (patients, health personnel and visitors)
- II. Investment Protection (equipment, furnishings and utility services)
- III. Operational Protection (maintain or improve or improve the facility's capacity to function).**

Agreement in the Americas

To urge Member States to adopt “**Hospitals Safe from Disasters**” as a national risk reduction policy, set the goal that all new hospitals are built with a level of protection that better guarantees their **remaining functional in disaster situations**,

and implement appropriate mitigation measures to reinforce existing health facilities, particularly those providing primary care.

***45th Directing Council, 2004
Pan American Health Organization
World Health Organization***



World Conference on Disaster Reduction

18-22 January 2005, Kobe, Hyogo, Japan

“Integrate disaster reduction planning in the health sector; Promote the goal of **Safe Hospitals** to ensure that all new hospitals are built with a level of protection that better guarantees their **remaining functional in disaster situations**,

and implement appropriate mitigation measures to reinforce existing health facilities, particularly those providing primary care.”

Hyogo Framework for Action 2005–2015:
Building the Resilience of Nations
and Communities to Disasters

New Facilities

- There is now a clear mandate and commitment to improve the design of new facilities.
- Disaster resilience is best and most economically done at the earliest stage of the planning
- Additional cost is modest (around 4%) but rising when risk reduction measures are considered later in the process

Existing Facilities

- Retrofitting all vulnerable facilities is unrealistic in most countries
- The cost of retrofitting can be as high as 40% of the replacement value

Traditional Hospital Vulnerability Assessment

- Hazard and Vulnerability Analysis
- Structural Assessment
- Non Structural Assessment
- Equipment and Critical Lines Studies
- Organizational/Functional Evaluation

- **Hospital Safety Index**

Hospital Safety Index

- Safe Hospitals Checklist
- Mathematic Model (Safety Index Calculator)
- Hospital Safety Index

Safety Index

- The Hospital Safety Index provides a snapshot of the probability that a hospital or health facility will continue to function in emergency situations.
- By determining a hospital's Safety Index or score, countries and decision makers have an overall idea of its ability to respond to major emergencies and disasters.
- The Hospital Safety Index does not replace costly and detailed vulnerability studies. However, because it is relatively inexpensive and easy to apply, it is an important first step toward prioritizing a country's investments in hospital safety.

Some Examples at country level

Mexico

established a Safe Hospitals National Committee and a Technical Advisory Group chaired by the Civil Protection Agency

30 out of 31 States in Mexico have created a Safe Hospitals Committee



Evaluators Teams

The Technical Advisory Group created two courses

**Introduction to Safe
Hospitals
(1469 participants)**



**Online Course for Safe
Hospital Evaluators
(402 certified evaluators)**

Online tutorial Course for Safe Hospitals Evaluators

Curso para Evaluadores del Programa Hospital Seguro

- Inicio
- Metodología
- Temario
- Calendario
- Asesoría
- Bibliografía
- Avisos

Las acciones del Sistema Nacional de Protección Civil son de gran trascendencia para México, y una de ellas fue adoptar la iniciativa de "Hospital Seguro" frente a desastres como una política nacional de reducción de riesgos que garantiza su capacidad para seguir funcionando en situaciones de emergencia.

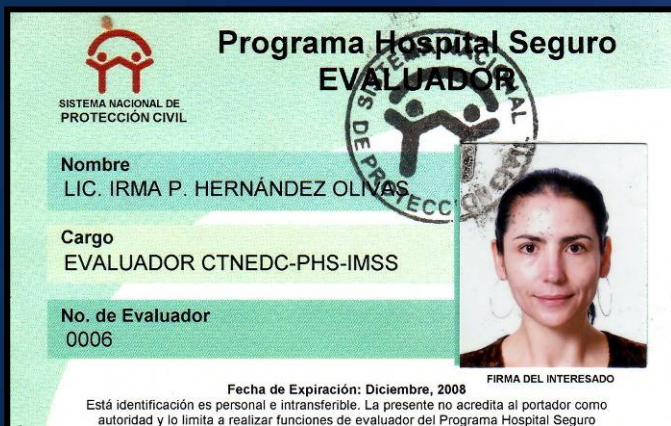
*Lic. Laura Gurza Jaider
Coordinadora General de Protección Civil (SEGOB)*



24 Conferences
33 topics

Evaluators certification

Certified every two years by the National Civil Protection System.



PERU



National Policy on Safe Hospitals

4. Propósitos, objetivos y estrategias de la Política Nacional de Hospitales Seguros Frente a los Desastres

4.1 Propósito

La Política Nacional de Hospitales Seguros tiene como propósito reducir el riesgo de desastre en los establecimientos de salud, para garantizar su funcionamiento con el máximo de su capacidad y en su misma infraestructura, durante y después de un evento adverso, cumpliendo de esa manera el deber del Estado de proteger la vida de la población de manera permanente, incluso inmediatamente después de un desastre.

4.2 Objetivos generales

- Mejorar las condiciones de todos los establecimientos de salud para que permanezcan accesibles y funcionando a su máxima capacidad operativa inmediatamente después de un desastre.
- Proteger la vida¹ de los ocupantes, la inversión² y la función³ de los nuevos establecimientos de salud y de los existentes.
- Diseñar y ejecutar proyectos de nuevos establecimientos de salud seguros y planes de mejora en los ya existentes, utilizando las normas e instrumentos de reducción del riesgo de desastre a nivel de todos los gobiernos regionales y locales del país.

Objetivos específicos

1. Revisar la normativa y los instrumentos sobre seguridad en los establecimientos de salud.
2. Incorporar los criterios de hospitales seguros frente a los desastres en los procesos de pre inversión, ejecución de la inversión, post inversión, aseguramiento y gestión de la calidad en salud.
3. Mejorar los niveles de seguridad frente a los desastres en los establecimientos de salud existentes.
4. Fortalecer los preparativos ante situaciones de emergencias y desastres.

5. Desarrollar actividades de hospitales seguros frente a los desastres a otras organizaciones de salud y a otros sectores.

4.3 Estrategias

1. Incorporación en el proceso de descentralización las actividades de la Política de Hospitales Seguros, promoviendo la elaboración y ejecución de planes y proyectos de inversión a nivel de los gobiernos regionales y locales.
2. Fortalecimiento del Rol Rector del Ministerio de Salud con la revisión, elaboración y supervisión del cumplimiento de las políticas de Hospitales Seguros a nivel de los subsectores de salud.
3. Desarrollo de las capacidades de recursos humanos multidisciplinarios, en el sector salud, tanto para el aspecto estructural, no estructural como funcional frente al riesgo de desastres a nivel de los establecimientos de salud.
4. Promoción del mejoramiento continuo de la calidad mediante el proceso de la acreditación en las actividades de reducción del riesgo para convertirlos en establecimientos de salud seguros.
5. Establecimiento del enfoque de gestión o eventos adversos que ponen en peligro la vida de las personas y el funcionamiento del establecimiento de salud.
6. Fortalecimiento de la articulación entre los subsectores de salud como las instituciones privadas, EsSalud, Sanidad de las Fuerzas Policiales y Fuerzas Armadas.
7. Fortalecimiento del trabajo intersectorial del SINADECI mediante actividades de promoción y capacitación en la comunidad y el sector educación.

5. Plan de acción 2010 - 2015

En el plan de acción se detallan las actividades, tareas, responsables y niveles de compromiso expresado en los indicadores y sus respectivas metas, que aseguran la implementación y desarrollo de la Política Nacional de Hospitales Seguros Frente a los Desastres.

¹ La edificación del establecimiento de salud es capaz de mantenerse en pie y resistir con daño mínimo los fenómenos destructivos de gran intensidad que se presentan en la zona donde está ubicado.

² Las instalaciones y los equipos de los establecimientos de salud son capaces de comportarse de tal forma que sufren daños mínimos y continúan operativos frente a fenómenos destructivos de gran magnitud.

³ El establecimiento de salud es capaz de mantener o mejorar su producción de servicios como parte de la red de salud a la cual pertenece.

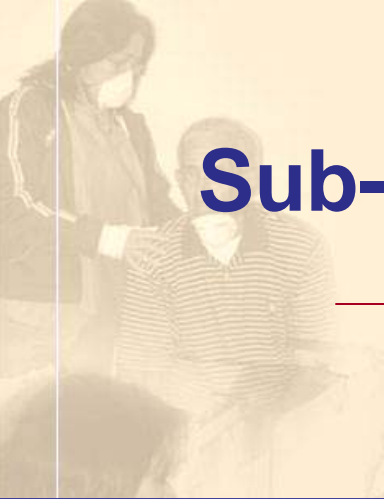
National Program on Safe Hospitals

Sub-national Safe Hospitals Program

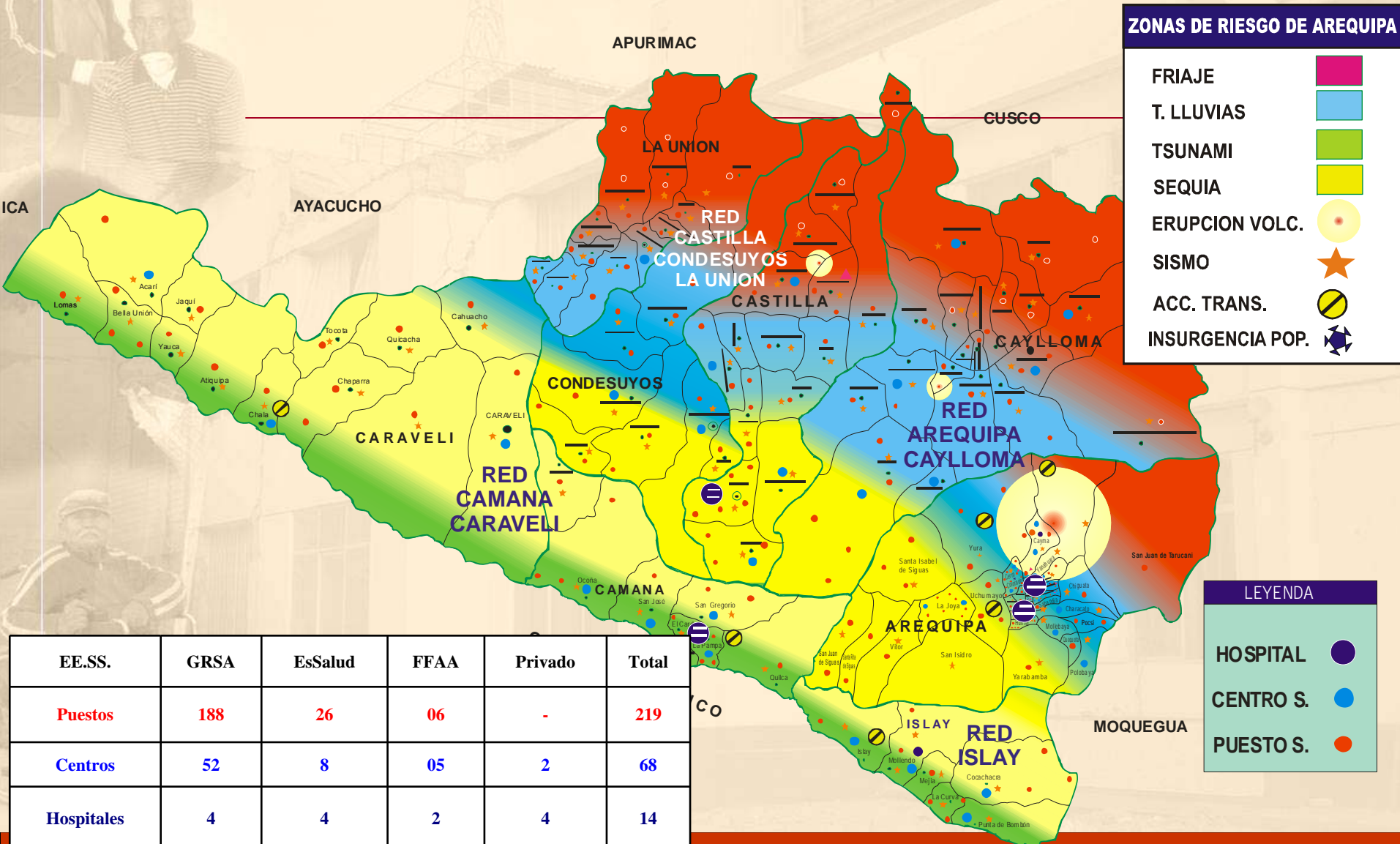
Basic Aspects to
establish the
Safe Hospitals
Policy

1. **Creation of the Safe Health Facilities Committee**
2. **Safety Situation Assessment**
3. **Elaboration of the Safe Hospitals Policy**

AREQUIPA – PERU



Health facilities Safety Assessment



ZONAS DE RIESGO DE AREQUIPA

- FRIAJE
- T. LLUVIAS
- TSUNAMI
- SEQUIA
- ERUPCION VOLC.
- SISMO
- ACC. TRANS.
- INSURGENCIA POP.

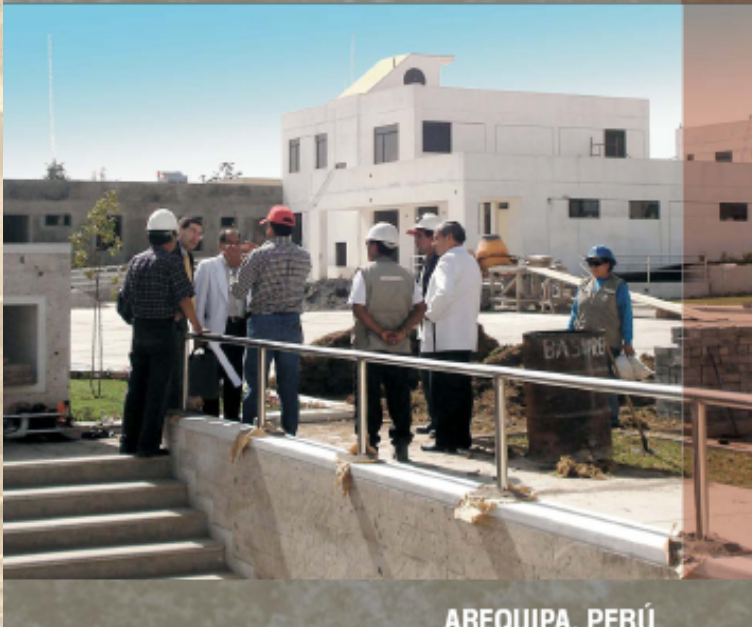
LEYENDA

- HOSPITAL
- CENTRO S.
- PUESTO S.

EE.SS.	GRSA	EsSalud	FFAA	Privado	Total
Puestos	188	26	06	-	219
Centros	52	8	05	2	68
Hospitales	4	4	2	4	14
Institutos	-	-	10	-	-
TOTAL	244	38	13	6	301

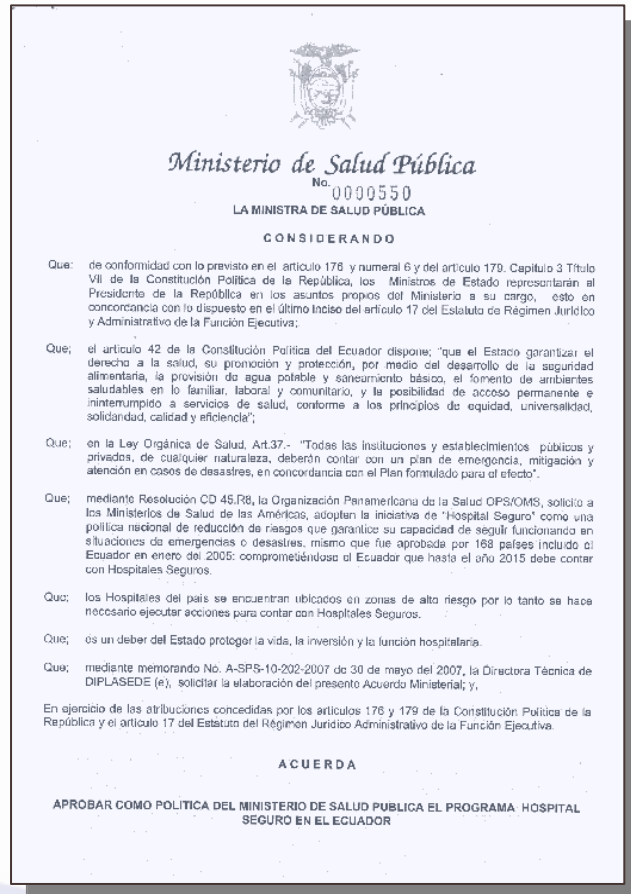
Sub-national Safe Hospitals Programs

POLÍTICA REGIONAL DE ESTABLECIMIENTOS DE SALUD SEGUROS

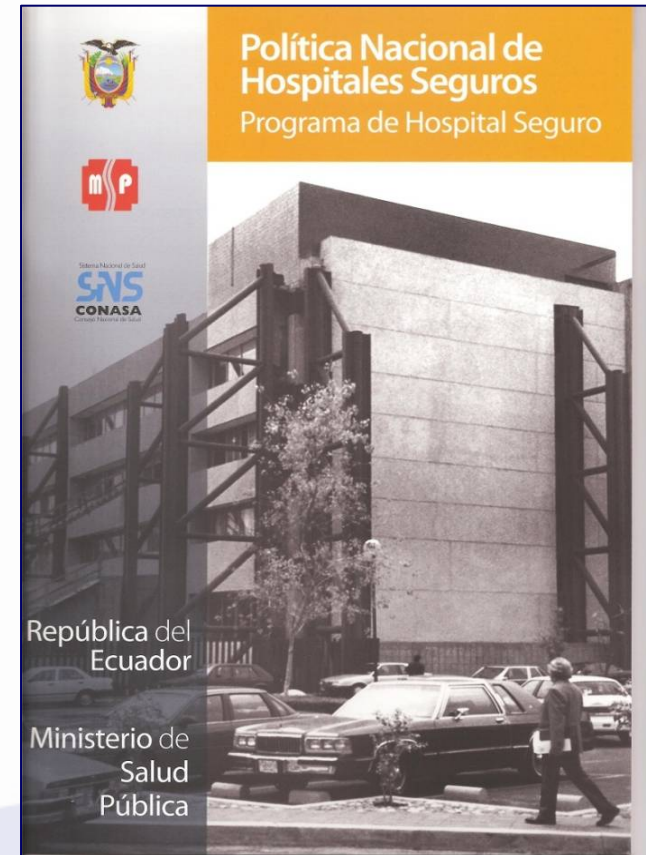


ECUADOR

SAFE HOSPITALS PROGRAM



**National Policy on
Safe Hospitals**



**Safe Hospitals
Program**

Hospital Safety Index in Ecuador's main hospitals

HOSPITAL	SAFETY INDEX
Guayaquil	0.57
Francisco Icaza	0.56
Carlos Andrade Marín	0.51
Martín Icaza	0.49
Luís Gabriel Dávila	0.53
Francisco de Orellana	0.28
Marco Vinicio Iza	0.23
Eugenio Espejo	0.30
Pablo Arturo Suárez	0.54
Enrique Garcés	0.55
Isidro Ayora	0.74
Voz Andes	0.41



Advances

- ❖ 83 Hospital Emergency Response Plans updated.
- ❖ New Hospital Signals Regulation approved
- ❖ At least 17% of the hospitals have implemented the new signals regulation.
- ❖ Distribution of fire extinguishers to 13 hospitals.
- ❖ Hospital Building Code being revised.





Strengthening Communities Through Safer Health Facilities In the Caribbean

Summary of results of Application of
checklist

Status of application of checklist

- A subregional team of multidisciplinary professionals were trained to apply the Hospital Safety Checklist to the participating hospitals.
- To date, 15 countries have hospital safety evaluators.
- From the 28 hospitals assessed in 13 caribbean countries, 5 are category C, 23 category B and none in category A.

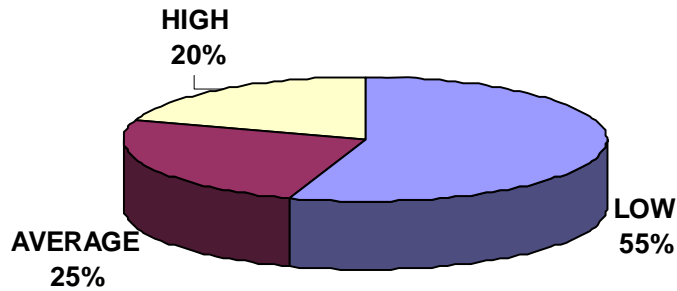
Safety Improvement Plan

- Some countries started to address some of the weak areas prior to the arrival of the evaluation team.
- Many hospitals made decisions about areas to be addressed immediately based on the report of the findings and the recommendations.
- To date most countries have prepared their Safety Improvement Plans and have begun implementing the plans
- All countries are working on updating their hospital disaster plans

28 Countries and Territories in the Region apply the Hospital Safety Index

- Anguilla
- Argentina
- Bahamas
- Barbados
- Belize
- Bolivia
- Colombia
- Costa Rica
- Cuba
- Dominica
- Dominican Republic
- Ecuador
- El Salvador
- Grenada
- Guatemala
- Honduras
- Jamaica
- Mexico
- Montserrat
- Panama
- Paraguay
- Peru
- Saint Kitts and Nevis
- Saint Vincent & the Grenadines
- Suriname
- Trinidad and Tobago
- Uruguay
- Venezuela

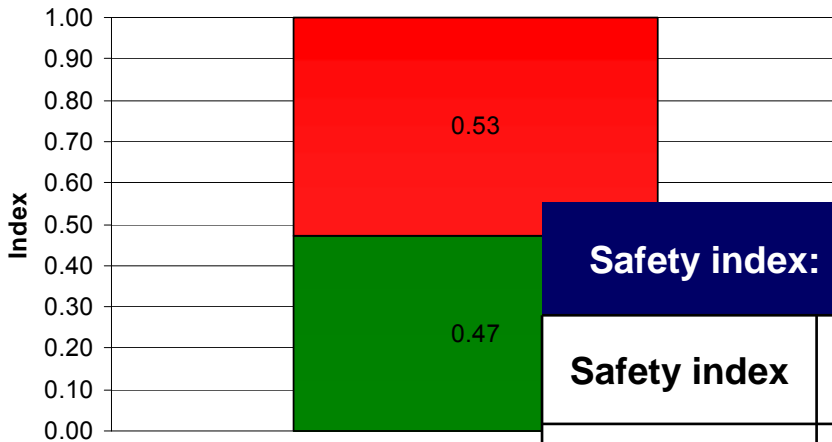
Functional Safety



Assessment Results for the first 405 hospitals

Category A 34 %
 Category B 46 %
 Category C 20 %

Hospital Safety Index



Safety index: **0.47** Health Facility Status: **Category B**

Safety index	Category Type	What should be done?
0 – 0.35	Category C	Urgent measures to protect the life of patients and hospital staff
0.36 – 0.65	Category B	Necessary measures are required in the short term to reduce losses
0.66 – 1	Category A	Preventative measures are required to maintain and improve safety

Plan of Action on Safe Hospitals 2010 - 2015

Creating a National Safe Hospitals Program

Hospitals Safe from Disasters

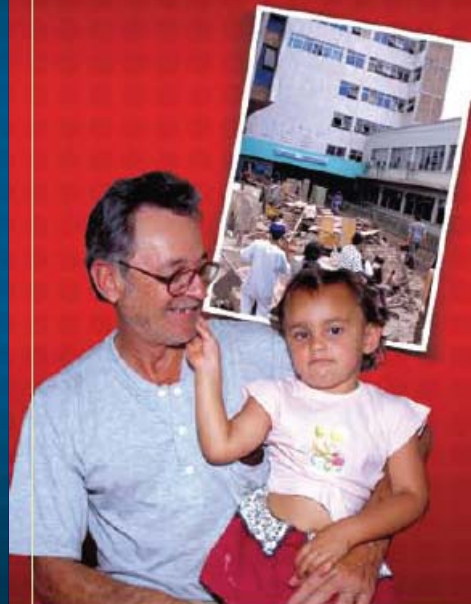
A Goal within our Reach



Creating a National Safe Hospitals Program

Objectives

- Develop policies and norms for hospitals safe from disasters.
- Protect the lives of all occupants, the investment in the infrastructure, and the functionality of new health facilities and those identified as priority facilities in the health services network.
- Make existing national and international policies and norms on safe hospitals widely known and follow up their implementation on a regular basis.



Strategies and Activities

National and international policy agreements

- Promote political and legislative decisions to establish a safe hospitals program in the Ministry of Health, other health sector institutions and regional organizations.
- Make a wide variety of national disaster prevention and response agencies key partners in achieving this goal, which was set forth in the Hyogo Framework for Action 2005 - 2015: Building the Resilience of Nations and Communities to Disasters.



Develop and update norms and standards

- Develop a national legal framework on safe hospitals.
- Prepare building codes, norms and procedures, technical manuals, protocols and regulations that support the implementation of a national program on hospitals safe from disasters.



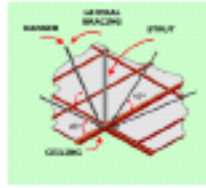
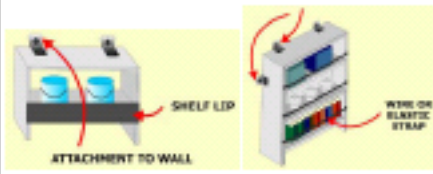
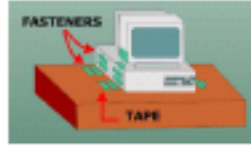
Americas

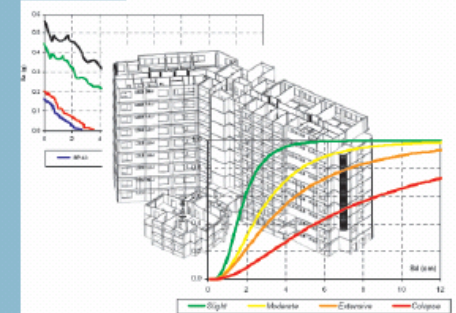
- 28 Countries in the Region are already applying the Hospital Safety Index.
- 8 Countries have a national safe hospitals program
- A Plan of Action on Safe Hospitals 2010-2015 was approved by all countries.
- Most hospitals in category “C” are implementing mitigation measures



Europe

Table 4.2 Non-structural mitigation measures (ref: [4,12])

Existing hazard	Mitigation measure	Photo
Glass (partitions, windows)	Utilization of safety glass (expensive option). Covering with plastic transparent foil in order to prevent glass shattering.	
Suspended Ceilings	Adequately mounted to floor structure with restrainers (lateral bracing).	
Lighting	Properly protected and mounted to ceilings.	
Unfastened cabinets and shelves	Cabinets and shelves properly secured to the wall using angle brackets in order to avoid dislocation or overturning. Free standing units fastened with continuous angles to floor. The overturning of existing items secured by means of secure lip, metal wire or elastic straps. Install mechanical drawer latches and mechanical cabinet catches.	
Monitors, computers or similar equipment	To be fastened to table with adhesive tape or connecting straps.	



Seismic Vulnerability Assessment of a Key Health Facility in The former Yugoslav Republic of Macedonia

- a handbook -



International Day for Disaster Reduction

Hospitals Safe from Disasters

14 October 2009 - London

South East Asia



Sardjito Hospital, 28 May 2006 morning.

Regional Consultation of SEAR Member Countries on
Keeping Health Facilities Safe from Disasters

New Delhi, India
15-17 April 2008



World Health Organization
Regional Office for South-East Asia

Checklist for Hospital Safety


Quick evaluation to assess building safety caused by earthquake

KAJIAN CARA CEPAT KEAMANAN BANGUNAN TEMBOKAN SEDERHANA SATU ATAU DUA LANTAI YANG RUSAK AKIBAT GEMPA


Teddy Boen
(tedboen@cbn.net.id)

CATATAN :

Walaupun telah banyak waktu dan usaha yang dicurahkan untuk menyusun daftar cara cepat untuk bangunan sederhana yang rusak akibat gempa ini, tanggung jawab hasil pemaknaan daftar kajian ini berada pada pihak yang memaknainya.



Asian Disaster Preparedness Center

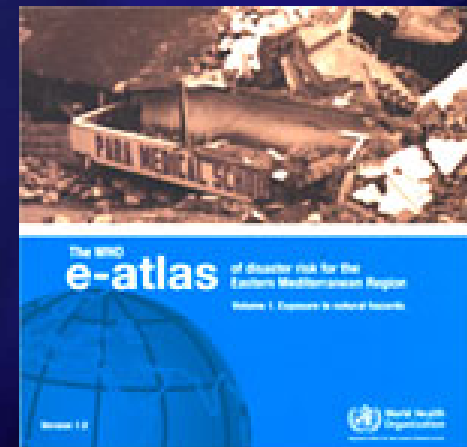
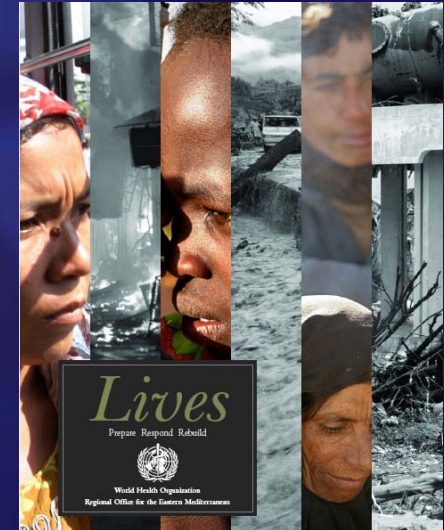


Safe Hospital: The Key to deliver effective Emergency Medical Services

East Mediterranean

المستشفيات المأمونة من الكوارث الطبيعية

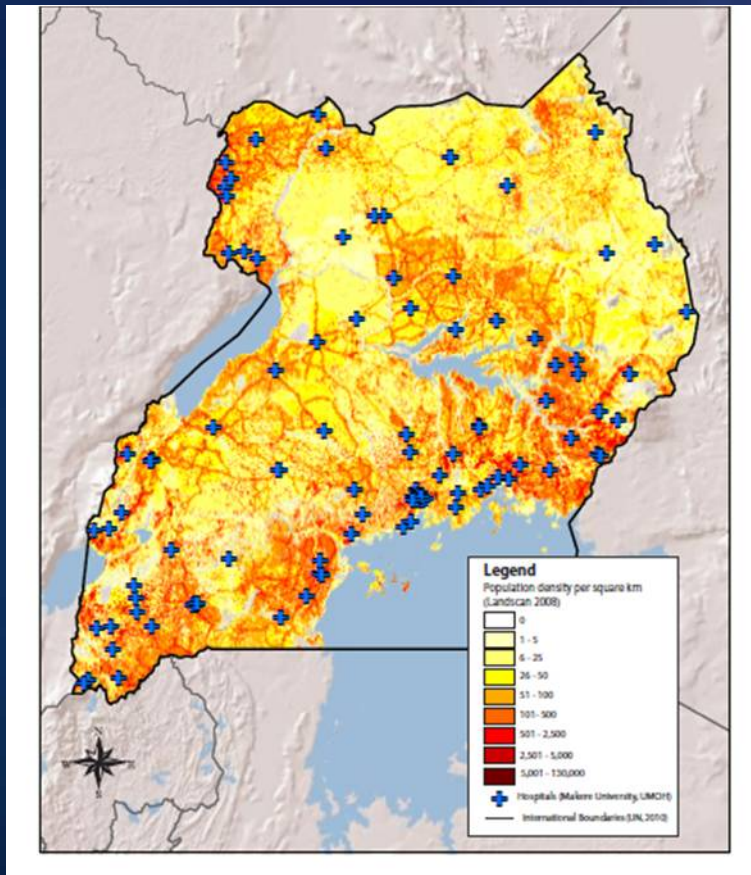
- The 2005 Pakistan Earthquake destroyed 388 of the 796 health facilities.
- A Group of Experts was created to validate safe hospital assessment tools and to elaborate a regional implementation framework.
- Electronic Disaster Risk Atlas



Africa: Uganda experience

Health facilities./services

Vulnerability / Capacity



Missing health facility
Vulnerability / capacity information



Hospital Safety Index



Health Information System



Health facility registry

Hospitals Safe from Disasters

A Goal within our Reach

www.paho.org/disasters

www.SafeHospitals.info



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The WHO Safe Hospitals Initiative

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