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ROUNDTABLE ON SAFE HOSPITALS

Safe Hospitals: A Goal within Our Reach

Introduction

1. Everyday shortcomings in the delivery of health services can be handled with measures like sending patients to other facilities. However, essential health services, the ones that save lives, need to be maintained in major emergencies.
2. Today, more than 67% of the nearly 18,000 hospitals in Latin America and the Caribbean are located in areas at higher risk of disasters. Many of them have become unserviceable as a result of major earthquakes, hurricanes, and floods. The impact of disasters on health facilities has kept over 45 million people from receiving hospital medical care over the years, and the direct economic losses from the destruction of infrastructure and equipment have probably exceeded US\$ 4 thousand million over the past 25 years. Unutilized emergency services can be the difference between life and death. For example, in the August 2007 earthquake in Peru, the city of Pisco (with nearly 100,000 inhabitants) lost over 97% of its hospital beds; 595 people died, and 1,295 patients had to be evacuated by air to hospitals in Lima.
3. Even though the social, political, and economic argument for keeping hospitals operating after disasters carries a great deal of weight in its own right, there is an even greater justification in the health sector itself. Hospital administration costs in Latin America and the Caribbean represent approximately 70% of Ministry of Health budgets, and the majority of the money is used to cover employee salaries. In isolated areas and small island nations, there is often only one hospital; if it ceases to operate, it represents 100% loss.

4. However, nature alone does not cause hospitals to collapse. Building new hospitals without considering risks and natural disasters, along with the gradual deterioration of the existing health infrastructure or its lack of maintenance create vulnerability and play a role in the destruction of health facilities and the death of their occupants. Threats tend to be natural, but the vulnerability of facilities and the resulting risk are not.

5. This Roundtable is a response to the need to facilitate and promote a broad, in-depth discussion with the health authorities of the Member States on socioeconomic impact, lessons learned, and successful strategies for achieving the goal of safe hospitals, in both existing health facilities and new health investment projects.

Background

6. The 45th Directing Council adopted Resolution CD45.R8, which resolves in paragraph 2: “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.”

7. The United Nations World Conference on Disaster Reduction approved the Hyogo Framework for Action 2005–2015, in which the 169 participating countries adopted the goal that in 2015, all countries should: “Integrate disaster risk reduction planning into the health sector; [and] promote the goal of hospitals safe from disaster.”

8. The United Nations International Strategy for Disaster Reduction (ISDR) decided to organize the World Disaster Reduction Campaign on Hospitals Safe from Disasters 2008-2009 to address disasters, pointing out that this is a complex initiative requiring the collaboration of all sectors, including financial institutions, to help hospitals develop the capacity to resist natural phenomena and keep operating in the event of a disaster.

9. The 27th Pan American Sanitary Conference adopted Resolution CSP27.R14 “Safe Hospitals: A Regional Initiative on Disaster-Resilient Health Facilities” and agreed: “To urge the Member States to: [...] Actively support the 2008-2009 ISDR safe hospitals campaign [...] [and] to request the [PAHO] director to:

- (a) Develop new tools to assess the likelihood that health facilities remain functional during and after a disaster and assist Member States in their implementation;
- (b) Support countries in documenting and sharing best practices as well as achieving progress on the safe hospital initiative;

- (c) Promote and strengthen coordination and cooperation with regional and subregional agencies related to the issue of disasters.”

10. The World Health Organization dedicated World Health Day 2009 to improving the safety of health facilities and the readiness of health workers to assist populations impacted by emergencies and disasters.

Objectives

- To assess the socioeconomic impact of disasters on health and identify strategies and financing sources to reduce risks in hospitals;
- To share lessons learned in the execution of the safe hospitals initiative in Member States;
- To strengthen coordination and cooperation among the health sector, disaster reduction agencies, and other sectors to achieve safe hospitals by 2015.

Roundtable Structure

Safe hospitals: a goal within our reach	
<i>Keynote presentation</i> (20 minutes): <i>Hospital safety is more than a medical issue.</i> <i>Dr. Claude de Ville de Goyet.</i>	
Discussion panels: (90 minutes)	
Discussion panel #1	
Subject:	How can financing be obtained to improve hospital safety?
Moderator:	President, Directing Council
Presentation of the discussion item:	Ms. Myriam Urzúa, Economic Commission for Latin America and the Caribbean (ECLAC)
Discussion guide:	<ul style="list-style-type: none"> • Socioeconomic impact of disasters on health. • Cost-benefit analysis of having safe hospitals. • Financing strategies and sources available to the health sector for making health facilities safe in the event of a disaster.
Discussion panel #2	
Subject:	Lessons learned in the implementation of national safe hospitals programs
Moderator:	Vice President, Directing Council
Presentation of the discussion item:	Dr. Caroline Chang, Minister of Health, Ecuador

Discussion guide:	<ul style="list-style-type: none"> • Critical analysis of the process to implement national safe hospitals programs. • Synergy with other initiatives and processes underway: patient safety, occupational health, safe surgeries, accreditation, etc. • Usefulness of applying the Hospital Safety Index and the safe hospital Checklist. • Efforts coordinated among various health sector units and institutions.
Discussion panel #3	
Subject:	Who is actually responsible for protecting hospitals in the event of a disaster?
Moderator:	Vice President, Directing Council
Presentation of the discussion item:	Ms. Laura Gurza, General Coordinator, Civil Protection System, Mexico
Discussion guide:	<ul style="list-style-type: none"> • Responsibility of national disaster prevention and relief systems and the health sector for safe hospitals in the event of a disaster. • Diagnosis, follow-up, and monitoring mechanisms for safe health facilities in the event of emergencies and disasters. • Strategies and successful experiences in the Americas to achieve the goal of Safe Hospitals by 2015.
Reports	
Rapporteur reports: The three rapporteurs of the three <i>discussion panels</i> meet and prepare a joint report.	
Presentation of the report in the plenary session (10 minutes)	Dr. Jean Luc Poncelet, Manager, Area on Emergency Preparedness and Disaster Relief submits the report at the Directing Council plenary session.
Participants and guests	
Official Member State delegates to the Directing Council	
International organization delegates, including: <ul style="list-style-type: none"> • Organization of American States (OAS) • Inter-American Development Bank (IDB) • Pan American Development Foundation (PADF) • Inter-American Institute for Cooperation on Agriculture (IICA) 	

- Economic Commission for Latin America and the Caribbean (ECLAC)
- World Bank (WB)
- Coordinating Centre for the Prevention of Natural Disasters in Central America (CEPREDENAC)
- Andean Committee for Disaster Prevention and Relief (CAPRADE)
- Caribbean Disaster Emergency Response Agency (CDERA)
- International Strategy for Disaster Reduction (ISDR)
- Cooperation agencies: Office of U.S. Foreign Disaster Assistance (OFDA), Canadian International Development Agency (CIDA), U.K. Department for International Development (DFID), Swedish International Development Cooperation Agency (SIDA), Spanish International Development Cooperation Agency (AECID), European Commission Humanitarian Aid Office (ECHO), etc.

Presentation

11. Member States are invited to discuss successful experiences and progress in the execution of the Safe Hospitals initiative in their respective countries.
12. Graphics, printed matter, and audiovisual material will be exhibited in the areas contiguous to the Directing Council session rooms.

Annex

BACKGROUND DOCUMENT¹ FOR THE ROUNDTABLE ON SAFE HOSPITALS

Safe Hospitals: A Goal within Our Reach

1. Introduction

1. Over the last 36 years, disasters have taken a heavy toll on human and economic conditions in Latin America and the Caribbean—more than 114,000 persons have died, and more than 47 million have been affected, most of them among population groups already living in precarious conditions in terms of housing, income, education, and other social indicators. The economic impact of disasters not only involves physical destruction and damage to assets, capital, and infrastructure (amounting to nearly US\$ 53 billion in the 36-year period); it also includes losses derived from the damage, which are in excess of US\$ 32 billion in current dollars and represent a yearly average cost that nears US\$ 7 billion.²

2. The health sector, and particularly health infrastructure, also has borne the brunt of these losses. More than 67% of the nearly 18,000 hospitals in Latin America and the Caribbean are located in areas at high risk of disasters. Many have become inoperative after major earthquakes, hurricanes, and floods. Over the past 25 years, the impact of disasters on health facilities has kept more than 45 million people from receiving medical care in hospitals, and the direct economic losses from the destruction of health infrastructure and equipment have probably exceeded US\$ 4 billion.

3. Future prospects are not encouraging. As the population moving into more vulnerable areas continues to increase and climatic changes affect sea levels, the severity or frequency of floods and storms is expected to increase, as is the severity of the risk from disasters to health systems.

1.1 Levels of Protection against Hazards

4. It is accepted that critical infrastructure such as hospitals and schools can and must be protected against hazards. However, there are different levels of protection. Level one, Life Protection, is the minimum level of protection required in a structure to ensure that it does not collapse. Level two, Investment Protection, protects all or part of the infrastructure and equipment, even though the facility itself may cease to function. Level three, Operations Protection, aims to prevent injury to a facility's occupants and

¹ Due to constraints on the length of Governing Bodies documents, this document has been abridged. The original version is available on request.

² Based on assessments by the Economic Commission for Latin America and the Caribbean (ECLAC).

costly damage to the infrastructure, as well as maintain the facility's capacity to function. This level is required for essential health facilities.

5. PAHO's definition of a safe hospital is based on level three protection. Initially, a safe hospital was defined as "a health facility whose services remain accessible, functioning at maximum capacity and in the same infrastructure, during and immediately following the impact of a natural hazard."³ More recently, the scope was broadened to include not only protection against natural hazards but also in the aftermath of any "large-scale disaster or emergency."⁴

1.2 The Meaning of "Safe Hospital"

6. Many factors come into play to make a hospital safe from disasters. These generally involve structural, non-structural, and functional factors.

- (a) **Structural:** These factors include the choice of location, the nature of the soil, and construction standards and techniques. They are the purview of engineers, architects, and other scientists.
- (b) **Non-structural:** This includes damage to non-weight-bearing elements of a building such as walls, false ceilings, lighting, as well as the fall or displacement of equipment, material, or supplies. Although damage to non-structural elements may not threaten the facility's structural integrity, it can disable the facility for an extended period of time.
- (c) **Functional:** This category includes the protection of all services essential for providing medical care (ranging from passable access roads to the availability of water, power, and supplies) and the level of preparedness of the health facility (ranging from emergency plans and procedures to drills and simulations).

7. Safe hospitals require that all three categories of factors be addressed. Simply preparing the staff of a health facility to respond is futile if the facility is not operational at the time of the emergency or, even more tragically, if the well-trained health workers themselves become casualties.

³ CE140/13 (Eng.) 2007.

⁴ www.safehospitals.info Leaflet Hospitals Safe from Disasters.

2. Background

2.1 Regional Background

8. The Governing Bodies of PAHO have strongly supported a Regional initiative on safe hospitals. In 2004, the 45th Directing Council urged Member States to build new hospitals with a level of protection that better guarantees their remaining functional in disaster situations. Subsequently, in 2007, the 27th Pan American Sanitary Conference adopted Resolution CSP27.R14, requesting the Director to develop new tools to assess the likelihood that health facilities remain functional during and after a disaster and to support countries to document and share best practices.

9. Increasingly, in other sectors, ministries of finance, planning, or development also have recognized the importance of risk reduction as an essential factor for sustainable development. Support from the World Bank Group and the Inter-American Development Bank has raised awareness outside the health sector.

2.2 Global Background

10. The United Nations World Conference on Disaster Reduction approved the Hyogo Framework for Action 2005–2015. The 169 participating countries adopted the goal that by 2015, all countries should: “Integrate disaster risk reduction planning into the health sector; [and] promote the goal of hospitals safe from disaster.”

11. The United Nations International Strategy for Disaster Reduction (ISDR) organized the World Disaster Reduction Campaign on Hospitals Safe from Disasters, 2008-2009, to address disasters. It pointed out that this is a complex initiative that requires the collaboration of all sectors, including financial institutions, to help hospitals develop the capacity to resist natural phenomena and continue to operate in the event of a disaster. WHO and UNISDR jointly launched this campaign.

12. WHO dedicated the 2009 World Health Day to the resilience and safety of health facilities and health workers who treat those affected by emergencies.

13. Encouraged by the global campaign and events, other WHO regions launched several initiatives to reduce risk, especially in reconstruction projects following major natural disasters.

2.3 Economic Valuation⁵

14. Disasters must be considered from a systemic (that is, intersectoral) point of view—what affects the economy will affect the health sector, and vice versa. After the emotional response of the first few days, decision makers in crisis situations react primarily to political and economic realities, not to health indicators. Economic valuation of the social burden—that is, placing a monetary value on the cost—becomes a critical tool as various sectors compete for scarce resources.

15. *Direct damage* is defined as the material losses that occur as an immediate consequence of a disaster. Physical losses include assets, capital, and material items that can be counted, such as hospital beds or equipment and medicines. Reconstructing facilities with the same degree of vulnerability as before would be unacceptable; health infrastructure affected by disasters must be replaced by more resilient and efficient facilities or built back better to ensure improved and sustainable service.

16. *Indirect effects of damaged hospitals* encompass both lost income associated with the diminished provision of health care and the increased cost of providing services after the disaster.

17. It is not easy to quantify the broad economic impact of disrupted health services in the wake of a disaster. However, the recent dengue epidemic in Bolivia and the pandemic (H1N1) 2009 in Mexico⁶ demonstrate that when a public health emergency becomes a disaster, the economic impact can exceed the loss of life or morbidity. In Mexico's case, economic losses were estimated to exceed US\$ 9 billion; the actual health costs (in terms of medical attention, testing of cases, patient treatment, etc.) represented less than 2% of this sum. In the case of Bolivia, the actual medical costs (not including prevention campaigns) represented about 13% of the total estimated economic cost of the emergency, derived primarily from lost income and missed work days.

2.4 “Safe Hospitals”: not Merely a Medical or a Disaster Issue

18. The health consequences of a hospital's post-disaster failure are not limited to the inability to provide emergency care for victims. The structural collapse of a hospital also directly threatens the lives of the patients and health workers. When care is provided in temporary facilities, long-term access to and quality of care diminishes.

⁵ Disease Control Priorities for Developing Countries, second edition. Oxford Press and World Bank Group (2006). (Adapted from Chapter 61 on disaster response and mitigation, Ricardo Zapata).

⁶ According to PAHO and ECLAC estimates, using a methodological tool under development.

19. The social impact is also often overlooked. Communities often gravitate around key social centers such as the church, the school, and the health center. The loss of one of these severely affects the community's resilience.

20. The "safe hospitals" approach calls for broad intrasectoral outreach, and also requires that many other sectors cooperate and become actively involved in the effort, taking leadership of certain aspects. This is not an issue that can be resolved by health professionals alone. Skilled structural engineers, architects, geologists, water and power experts, and other sectors or professions are as important as the health experts.

21. Improving the resilience of health facilities requires a sustained investment. Despite the severe short- and long-term economic consequences of hospital failure, risk reduction still fails to attract necessary funding. Innovative approaches and alternative sources of funds are required.

3. Cross-Sectoral Responsibility

3.1 Stakeholders

22. At least seven categories of stakeholders are involved in the 'safe hospitals' program (supporting health services, promoting disaster risk reduction and emergency preparedness, regulating building construction and health services, building health infrastructure, operating health services, providing utilities and other services, and financing health facilities). Stakeholders can belong to more than one category; for example, social security supports, operates, and finances health services.

23. *Supporting health services.* This category involves entities that promote health and support health services. It includes the public and private sector, civil society, NGOs, and community-based organizations.

24. *Promoting disaster risk reduction and emergency preparedness.* There is a range of players in this group, which looks at diminishing risk in critical services in order to protect the physical infrastructure; the equipment; and the health workers, patients, and visitors inside the facilities. They also are interested in planning for emergencies that could occur outside or inside the hospital.

25. *Regulating building construction and health services.* Stakeholders in this category range from national regulators responsible for land use management, building codes, and norms pertaining to health facilities and health services, to local authorities and auditors charged with implementing policies and enforcing regulations.

26. *Building health infrastructure.* This category involves public and private builders who must respond to norms and regulations for proper construction of physical infrastructure. Criteria such as cost effectiveness, quality control, and liability are considered in this group.

27. *Operating health services.* A variety of stakeholders who are involved in providing health services, usually within a health network, make up this category. Their engagement with hospital safety is primarily related to functional vulnerability and emergency plans, rather than to structural and non-structural vulnerability.

28. *Providing utilities and other services.* In emergency situations, utility providers can make the difference between a hospital that continues to function and one that cannot. Even a hospital that is fitted with high-end equipment and has well-trained personnel still could fail to respond in an emergency if it is without water, energy, or gas.

29. *Financial institutions.* This category promotes social development and responds to social demands. At the national level, action focuses on social development agendas, in which health facilities are promoted and funded by ministries other than the ministry of health. Some institutions linked to presidential mandates that channel important resources to the construction of physical infrastructure, including health facilities and schools.

3.2 Leadership for “Safe Hospitals”

30. It is critical to establish the responsibility of each stakeholder in national safe hospitals programs. Although countries in the Region have adopted different approaches, successful programs have had common features—the leadership of a health institution has been backed by strong regulatory and political support from the social security system, civil protection, national emergency committee, or some other cross-sectoral institution responsible for disaster risk reduction.

31. The recommended approach is to establish a unit within the ministry of health to lead and regulate a “safe hospitals task force.” The ministry of health’s leadership should allow and encourage other actors to take vigorous roles, be supportive of one another, and look for synergy among different players. The joint effort should be guided by a work plan that has been developed in a participatory manner and that considers the nature of the different stakeholders, their interests, capabilities, and potential contributions.

32. Considering that what needs to be done to safeguard health facilities exceeds available resources, it is important to pursue a collegial, inter-institutional approach. Through such an approach, criteria for prioritizing disaster risk reduction interventions in health facilities or for building new safe health infrastructure can be agreed upon. Criteria include assigning priorities to highly complex health services, or placing health care units

in strategic locations, or having health facilities functioning as nodes within health networks.

3.3 Monitoring and Evaluation

33. A lack of monitoring and evaluation mechanisms is partially responsible for the slower-than-expected progress in “safe hospitals.” It is important to track and record the execution of activities and the fulfillment of goals, as well as to identify constraints and roadblocks from which lessons can be learned. This monitoring should be independent and inter-institutional.

34. The private sector can also actively participate in monitoring and evaluation mechanisms through professional associations (of engineers and architects, for example), auditing firms, and experts.

35. The monitoring role of subregional disaster reduction agencies such as the Caribbean Disaster Emergency Response Agency (CDERA) in the Caribbean and PAHO’s role at the Regional level should be clarified and perhaps expanded, to ensure that standards and norms meet Regional requirements and, especially after disasters, that lessons are learned and amply disseminated across the Region.

4. Sectoral Implementation of a National Safe Hospitals Program

4.1 Political Support

36. Only a few Latin American and Caribbean countries have made significant progress in reducing the vulnerability of their health facilities; others have failed to achieve concrete results. The determining factor for success is the presence a clear and sustained political commitment and support from the highest-level health authorities. A proactive engagement of the minister of health is critical for enacting legislation and regulations or ensuring that funds are earmarked and assigned to strengthen existing facilities prior to a disaster.

37. Political commitment and support are common in the dramatic immediate aftermath of a disaster. However, if this support is not institutionalized, it quickly wanes. By institutionalizing support for safe hospitals, lessons can be learned and shortcomings identified. For the most part, larger countries have greater opportunities to learn from these events than smaller ones. Therefore, routine, Regionally-led post-disaster assessments and damage evaluations are needed so that all countries, regardless of their size, learn from a broader set of experiences. Such surveys provide the bulk of scientific and practical knowledge and they also are a prime motivating force for change.

38. Some countries have used the short-term window of opportunity in the aftermath of a major natural disaster—when awareness and public support are at their peak—to incorporate risk reduction measures into reconstruction projects. The catalytic role of subregional and Regional disaster management organizations and international financing institutions should be recognized.

4.2 Scope of a “Safe Hospital” Program

39. What does a safe hospital program entail? Reducing the vulnerability of the extensive network of hospitals, blood banks, public health facilities, and primary health care centers is a serious, technically demanding, and long-term undertaking which cannot be improvised or replaced by the *ad hoc* adoption of measures in the wake of an earthquake or hurricane. It includes the following steps.

(a) *Strategy and Diagnosis*

40. The first step is to define which health facilities will be covered (new and existing facilities; hospitals, blood banks, and laboratories; etc.) under a “safe hospitals” program. In practice, countries and PAHO have adopted a pragmatic definition that centers on the number of beds (50 being a common threshold) and includes new (yet to be built) and existing public, private (for profit) and social security (not for profit) medical and public health facilities.

41. Mapping geological or hydrological risk is not the direct responsibility of the ministry of health, but rather of civil protection or another cross-sectoral institution. The health sector is, however, responsible for seeking this data and using it in its daily planning for infrastructure.

42. There is strong Regionwide consensus that proposed new facilities must comply with strict requirements for structural and non-structural safety. Verification of compliance may remain an issue.

(b) *Setting Priorities and Formulating a Plan*

43. Ensuring that all new or renovated facilities are constructed and operated in compliance with safety requirements is a matter of political will. The lack of funding is not a valid reason for overlooking this basic step that has been agreed upon by all governments.

44. The strengthening of all existing at-risk facilities represents a different challenge. It is neither feasible nor cost-effective to do this in the short-term. Yet, failing to address the problem is not defensible from a technical or ethical standpoint. One way to establish priorities is to apply the Hospital Safety Index. Mexico's experience in the 1,381 facilities of the Mexican Social Security Institute (known as IMSS for its Spanish acronym) proved that application of this Index is a relatively quick process that allowed for local ownership of the process.

The Hospital Safety Index

The Hospital Safety Index is an important first step in prioritizing a country's investment in hospital safety. It provides a snapshot in time of the probability that a hospital or health facility can continue to function in emergency situations.

First, an independent Evaluation Team uses the standardized **Safe Hospitals Checklist** to assess the hospital's level of safety in 145 areas. Once the Checklist has been completed, the Evaluation Team collectively validates the scores and enters them into a scoring calculator, which weights each variable according to its relative importance to a hospital's ability to withstand a disaster and continue functioning. The final Safety Index score places a health facility into one of three **categories of safety**, helping authorities determine which facilities most urgently need interventions:

- **Category A** is for facilities deemed able to protect the life of their occupants and likely to continue functioning in disaster situations.
- **Category B** is assigned to facilities that can resist a disaster but in which equipment and critical services are at risk.
- **Category C** designates a health facility where the lives and safety of occupants are deemed at risk during disasters.

45. Structural safety is the primary requirement. The collapse of a hospital that results in the death of staff and patients is no longer considered acceptable. If a building is not reasonably expected to remain standing after a hurricane or earthquake, there is no point in undertaking extensive non-structural mitigation measures.

(c) *Enacting Legislation and Issuing Regulations*

46. Little progress will be made if advances are left to the initiative and goodwill of private or public institutions. Safety must be regulated. Among countries in the Americas that lead the way in adopting norms specific for hospitals are Chile, Colombia, Costa Rica, El Salvador, Mexico, and Peru. In fewer instances, the normative contribution also included the promulgation of regulations and procedures.

47. The key point is that norms and building codes applicable to housing, offices, and even schools may not be sufficient to ensure continuous operation of most critical health facilities. Countries often classify buildings into four categories, the highest covering those facilities that must remain operational in the immediate aftermath of the impact.

Telecommunications centers, police and security services, fire departments, emergency coordinating centers—and health facilities—fall into this category.

48. The expertise of the infrastructure division of the ministry of health will be indispensable in drawing up specific norms for the different types of facilities such as hospitals, blood banks, laboratories).

(d) *Progressive Implementation and Verification*

49. It is not uncommon to witness assessments of the vulnerability of level of a health facility that are not followed up with corrective action. Human resources must be allocated for program implementation and monitoring of results.

50. Several issues need to be determined. 1) Who in the ministry of health should assume responsibility? 2) Should the responsibility be assigned to the disaster management program or to the infrastructure department which has more direct authority and expertise in engineering and maintenance? 3) Should the program lie within the ministry of health, the normative head of the sector, or with social security, the agency which has a greater investment in hospitals and other care infrastructure? 4) Finally, is risk reduction an emergency or a sustainable development issue?

51. Among Member States with an active safe hospitals program, opinions and solutions vary broadly. However, all success stories share a common feature: all relevant parties were actively involved. Disaster managers and infrastructure experts worked closely together. Social security and the ministry of health, regardless of who takes the lead, act as partners. Whether the program is regarded as a long-term investment (the preferred approach) or a disaster-related function, its success depends on the collaborative attitude of all partners, through institutionalization of a coordination mechanism, whether a committee or council for hospital safety.

52. Worldwide, public institutions have shown a greater propensity to collapse than have private ones. One reason may be the age and poor maintenance record of government hospitals. Another cause may be that norms and building codes were not properly applied.

53. Monitoring and supervision during construction is indispensable.

5. Financing

5.1 Cost of Risk Reduction

54. The cost of a safe hospital or health facility is negligible when included in early design considerations. For the vast majority of new health facilities, incorporating comprehensive disaster protection from earthquakes and weather events into designs from the beginning will only add 4% to the cost.⁷

55. The cost of retrofitting existing health facilities varies greatly. For example, non-structural elements—the contents, rather than the building itself—represent most of a hospital’s value. Damage to non-structural elements also is what most often renders a hospital inoperable during a natural disaster. Retrofitting non-structural elements costs only about 1%, while protecting up to 90% of the value of a hospital.⁸

56. The cost effectiveness of preventing damage or the loss of services has been well documented in individual facilities. However, the uncertainty of disaster situations requires a comprehensive program of risk reduction in many institutions, a costly undertaking. The financial return of this measure will depend on the level of risk (severity and recurrence) and cost.

5.2 Funding Sources

57. Funding for a mid-term national plan for “safe hospitals” should come primarily from national resources: the national budget, the health sector budget, and specific cross-sectoral funds and instruments.

(a) *Cross-Sectoral Mechanisms*

58. Good examples of the use of financial instruments and insurance coverage for overall disaster risk are Mexico’s national disaster funds—one for emergency response (FONDEN); two for disaster prevention, (FOPREDEN and FIPREDEN); and an earthquake parametric bond that matured in 2009.

59. Some countries have partial insurance coverage for their health or hospital infrastructure—normally covering buildings, specialized equipment, or stockpiles. Little attention has been given, however, to the use of financial coverage to guarantee service (“business”) continuity. An area worth considering is the feasibility of adopting such

⁷ Protecting New Health Facilities from Disasters: Guidelines for the Promotion of Disaster Mitigation, Washington D.C., PAHO/WHO. 2003.

⁸ Guidelines for Seismic Vulnerability Assessment of Hospitals. World Health Organization and the National Society for Earthquake Technology (NSET), Nepal.

“parametric” or “business continuity” coverage, either through insurance (local, state-funded or subsidized, or internationally reinsured) or by financial instruments such as bonds or derivatives.

60. Another example is the Caribbean Catastrophe Risk Insurance Facility (CCRIF), which is also a parametric insurance facility. It insures government risk and is designed to limit the financial impact of catastrophic hurricanes and earthquakes to Caribbean governments by quickly providing short-term liquidity when a policy is triggered.

(b) Sectoral Mechanisms

61. The health sector has also developed its own mechanisms for funding the retrofitting or reconstruction of unsafe health facilities. Safety (or lack thereof) is becoming a critical determining factor in the selective implementation of the health sector’s master plan of reform and extension of health services. Higher priority is placed on building new and larger health facilities in areas and communities with unsafe facilities in highly at-risk areas, where health coverage is insufficient. Risk reduction has become an integral part of the development of the health services.

62. Thus, a proactive course of action, of which the “safe hospitals” initiative is a positive example, needs to be further expanded to risk reduction and to preventive rather than curative measures that transcend medical aspects. Financial considerations, risk insurance, and investment instruments are to be viewed as an important part of a safe hospitals initiative in the face of risks that seem to be growing and becoming more global and severe.

6. The Way Forward

63. “Safe hospitals” is becoming an imperative social and political necessity as the public becomes more aware of the rising risk and the benefits of mitigation measures. But the health sector alone cannot achieve this objective. This requires the strong participation, if not the leadership, of the civil protection sector and the explicit and sustained support from the highest authorities and legislative bodies. Safer hospitals must be a cross sectoral undertaking.

64. The fact that it is an inter-sectoral issue does not relieve the ministry of health of its responsibility as the head of the health sector. The ministry of health must take the leadership role in protecting health facilities and ensuring health care (business) continuity throughout the sector. It should encourage and facilitate the meaningful participation of the social security and private (profit and nonprofit) institutions.

65. Similarly, protection from natural hazards may not be the exclusive responsibility of the ministry's disaster program or unit. Infrastructure and maintenance divisions are just as concerned and competent in this matter. Their role, possibly a leadership position, is essential.

66. While minimizing the risk in new facilities is broadly accepted as a must, reducing the risk in all existing facilities may not be attainable in the short-term. All facilities should be ranked, possibly using PAHO's Hospital Safety Index, and priorities should be set for the progressive retrofitting of key facilities as part of a national "safe hospitals" strategy and plan.

67. "Safe hospitals" is not a temporary concern or a short-lived campaign. It is, or should be, a long-term commitment and a program within the sustainable development context. Accordingly, countries should establish corresponding legal and administrative structures and make budgetary arrangements.

68. "Safe hospitals" require sustained, earmarked funding. This funding may be obtained through a variety of national or Regional cross-sectoral risk reduction mechanisms as well as by including budget lines for risk assessment and reduction in the central health budget and in Regional entitlements in decentralized countries.

69. The support of legislative bodies is critical and cannot be improvised. An information campaign that includes both lawmakers and the public will help secure their informed support and the sustainability of the current effort.