



Making the Case for Hospitals Safe From Disasters

The price we pay for the failure of hospitals or health facilities due to disasters is too high. In comparison, the cost of making hospitals safe from disasters is tiny. Disaster damage to health systems is a human and health tragedy, results in huge economic losses, deals devastating blows to development goals, and shakes social confidence. Making hospitals and health facilities safe from disasters is an economic requirement, and also a social, moral and ethical necessity.

The Economic case

Hospitals and health facilities represent an enormous investment for any country. Their destruction and the cost of reconstruction and recovery impose a major economic burden.

Indirect costs of damaged health infrastructure are often not completely accounted for, but can be higher than the direct costs of replacement and rebuilding. Indirect costs measured in studies have included:

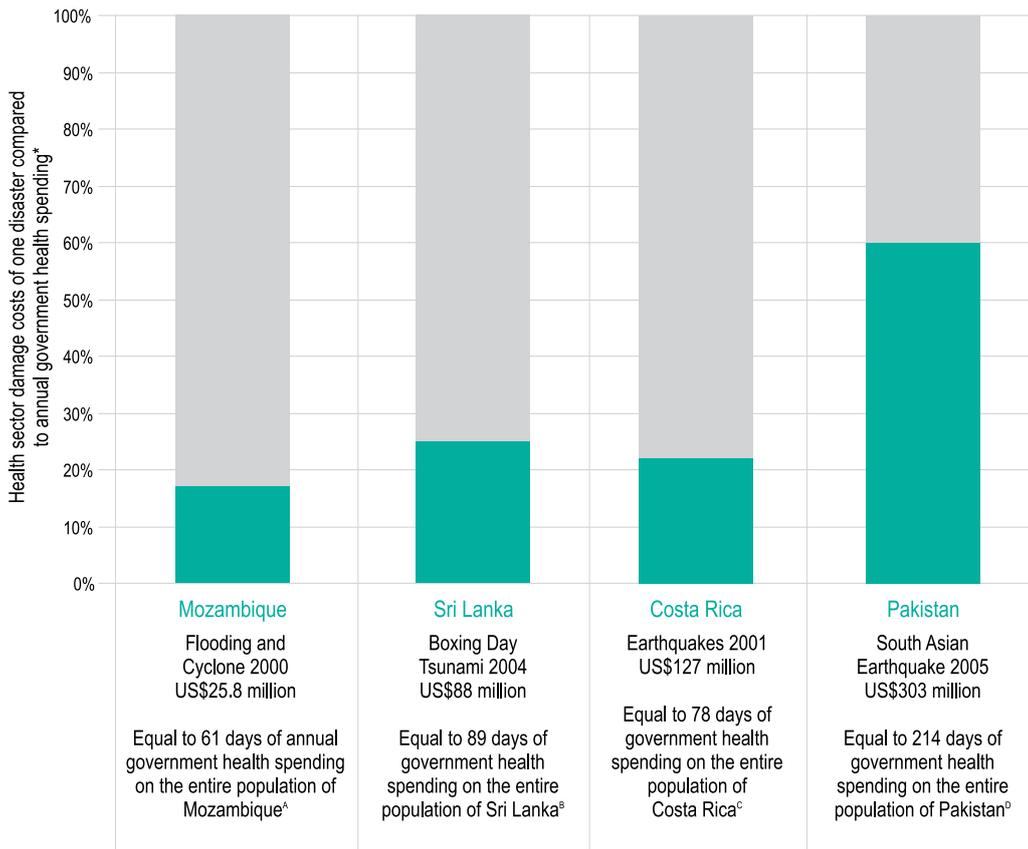
- Efficiency losses due to interruption of hospital network services like laboratories or blood banks
- increased costs of providing emergency health and shelter services
- the cost to individuals of lost opportunities, income, time and productivity.

Other kinds of indirect costs are difficult to measure, but have significant impact:

- Longer-term damage to public health, wellbeing and productivity
- the blow to overall national economic development and business confidence
- the disincentive to future external investments.

During a 1990 earthquake in Costa Rica, five major hospitals were in the midst of being retrofitted. Retrofitted areas came through the quake in excellent condition and saved lives, while the incomplete areas suffered extensive damage. The preventive savings far exceeded the cost of the retrofitting.

Source: Safe Hospitals: A Collective Responsibility, PAHO & WHO, 2005



* Based on 2007 population, and per capita US dollar government expenditure on health in World Health Statistics, World Health Organization, 2007.

Sources:

- ^a Republic of Mozambique: A Preliminary Assessment of Damage from the Flood and Cyclone Emergency of February-March 2000, World Bank, 2000.
- ^b Sri Lanka 2005 Post-Tsunami Recovery Program: Preliminary Damage and Needs Assessment, ADB, JBIC and World Bank, Colombo, Sri Lanka, 2005.
- ^c Loan for emergency reconstruction of hospitals only, Earthquake Reconstruction and Health Services Extension Project, World Bank, 2007.
- ^d Pakistan 2005 Earthquake, Preliminary Damage and Needs Assessment, Asia Development Bank and World Bank, Islamabad, Pakistan, 2005.

Indirect costs from disasters in Latin America and the Caribbean between 1991-2002 have been calculated to be nearly US\$ 13 billion - more than costs of direct damage.

Handbook for estimating the socioeconomic and environmental effects of disaster: LC/MEX/G.5, Mexico City: ECLAC, 2003.

Prevention is cost-effective

Building disaster-safe hospitals or protecting existing hospitals is surprisingly cheap. The small investments required are nothing compared to the risk of partial or complete destruction during a disaster, the death of patients and staff, and the equally high health, economic and development impacts in the aftermath.

Low cost design safety: New hospitals

The cost of a disaster-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 earthquake and weather events into designs from the beginning will only add 4% to the cost.¹ Planning processes for new hospitals can be easily targeted by advocacy, and should be a priority.

¹ Protecting New Health Facilities from Disasters: Guidelines for the Promotion of Disaster Mitigation, Washington D.C., PAHO/WHO 2003.



Low cost retrofitting: targeted protection

The cost of retrofitting existing health facilities can vary greatly depending on context, but prioritizing the protection of critical care and hospital functionality reduces potential costs and provides excellent examples of cost-effectiveness. For example, non-structural elements – the contents, rather than the building – represent most of the value of hospitals. Damage to non-structural elements is also what most often renders a hospital inoperable during a natural disaster. **Retrofitting non-structural elements costs only about 1%² while protecting up to 90% of the value of a hospital.³**

Retrofitted health centers in the Cayman Islands were virtually undamaged during Hurricane Ivan in 2004.⁴ Had they not been retrofitted, specialists estimate that the Hurricane could have caused 20% worth of damage to structures, and 40% of damage to the contents of the facilities.²

The Health case

Hospitals and health facilities need to remain functional during disasters. The human cost of hospital failure is made very clear in the aftermath of disasters, as the immediate focus is on fatalities, search and rescue, and the need to tend to the injured.⁴ When hospitals are unable to fulfill their emergency function at the time when most needed, critical care is compromised and lives are lost needlessly.

However, health services are not only critical emergency centers; they play a vital role in recovery, social cohesion and economic development. The long-term impact of the loss of public health services on the Millennium Development Goals exceeds the impact of delayed treatment of trauma injuries. Hospitals, primary health centres, and other health facilities are central to sustainable recovery from disaster, and to health-driven development goals, taking key roles in:

- ongoing health surveillance to prevent outbreaks
- public health and sanitation campaigns, particularly preventive medicine
- attracting health research and hosting reference laboratories, driving innovation
- acting as focal points for community organization.

Disasters can wipe out huge swathes of the health systems in developing countries or vulnerable regions.

- After the 2003 Algerian earthquake, 50% of the health facilities in the affected region were no longer functional due to damage.⁵
- In the region of Pakistan worst affected by the 2005 South Asia Earthquake, 49% of health facilities, from sophisticated hospitals to rural primary care clinics and drug dispensaries, were completely destroyed.⁶

These levels of damage seriously compromise developing countries' potential to achieve the Millennium Development Goals of reducing child mortality, improving maternal health, and combating HIV/AIDS, tuberculosis, malaria, and other diseases.

² Tony Gibbs, Consulting Engineers Partners Ltd.

³ Guidelines for Seismic Vulnerability Assessment of Hospitals, WHO & NSET, Kathmandu, April 2004.

⁵ Safe Hospitals: A Collective Responsibility, PAHO & WHO, 2005.

⁶ Algeria: Earthquake, Emergency Appeal 14/03, IFRC, June 27 2003.

⁷ Ministry of Health, Pakistan.



The Social case

The social implications of hospital failure carry immense risks. Hospitals, health facilities and health services have a unique symbolic value as touchstones of public faith Government and society. They are sanctuaries for the community's most vulnerable people, meaning that there is a moral imperative to provide hospitals and health facilities with adequate protection. Deaths of the sick, elderly and children in hospitals during disasters, and the failure of emergency services when they are most needed, can have a crippling effect on public morale and can ignite political dissatisfaction.

However, an effective response and functional health service following a disaster can reinforce a sense of stability and social cohesiveness. Functioning hospitals and health facilities are powerful symbols of social progress, and are prerequisites for stability and economic growth.

Public confidence in all levels of the United States government dropped after perceived inadequacies of the emergency response to Hurricane Katrina in New Orleans,⁸ during which the country witnessed the recovery of 44 dead bodies from an abandoned and damaged hospital. At least 140 elderly patients of hospitals and nursing homes died in the wake of the hurricane, and health and aged care facilities were later accused of euthanizing or abandoning their elderly charges.⁹

Approval ratings of President Alan García of Peru rose five points on public perception of effective government response and management immediately after the Peruvian earthquake of 2007.¹⁰ The Peruvian Government indicated that hospital needs were covered one week after the quake.¹¹

Whether health services function or fail is an area of great political risk for governments, but also an area of great potential political gain.

⁸ Poll results, Washington Post, p.A08, Tuesday, September 13, 2005; Poll Results: Hurricane Katrina, Time Magazine, Sep 10 2005.

⁹ '45 bodies found in a New Orleans hospital', New York Times, September 13 2005, 'Nursing home owners charged in Katrina deaths', Associated Press, September 13 2005.

¹⁰ Peru's political tremors, Economist Intelligence Unit, Sep 24 2007.

¹¹ 'Earthquake in Peru: Situation Report No. 6, Office of the Resident Coordinator, UN Country Team in Peru, 21 Aug 2007.