PEER

NSET

USAID
FROM THE AMERICAN PEOPLE

HOspital Preparedness for Emergencies

Prof. Dr. Teodoro Herbosa
Dept. of Emergency Medicine
Universiti Kebangsaan Malaysia and
University of the Philippines, Manila
Board Member, World Asociation of Disaster and Emergency Medicine

Hospitals Safe from Disasters

PEER

- Hospitals should remain functional after disasters
- Often, hospital leaders in Asia adopt an evacuation policy aftermath an earthquake

Hospitals Safe from Disasters

PEER

Hospitals are not like schools, office buildings, hotels.
Hospitals must function after an earthquake.

Background

PEER

Structural Engineers and Doctors with vast disaster experiences in Asian health systems developed a training module for hospitals in disasters

Objective

PEER

To discuss a regional course called *HOSPITAL PREPAREDNESS FOR EMERGENCIES (HOPE)* to train hospital staff on rapid assessment tools for structural damages, the functional collapse of hospitals and emergency response therein.

Course Development

PEER

Asia - natural & human generated disasters

- lack of advanced Major Emergency Management.
- burden on hospitals to cope w/ mass casualties

1998 HOPE Course developed for Asian countries:

Philippines
India
Indonesia
Nepal
Bangladesh (2003)
Pakistan (2007)

All 6 countries - RISK for earthquakes

What is HOPE?

PEER

- Intensive 32 hours; 4 days
- enhance hospital preparedness and emergency response
- structural, non-structural, and functional concerns

HOPE 23 Lessons & 7 Exercises 1st ed.

PEER

- *Overview of Disasters and Health*
- *Disaster Risk Management*
- *Seismology Concepts*
- *Structural and Non structural Assessments of Hospitals*
- *Operational and Functional Components*
- *Emergency Department Concepts*
- *Mass Casualty management*
- *Triage*
- *Resuscitation & Disaster Medical Care*
- *HEICS*
- *Hospital Disaster Planning*
- *Mgt of Dead bodies*
- *Psychosocial issues*
- *Mgt of Resources*
- *Return to Normal Operations*
- *7 Exercises/Table top Simulations/Role play*

Purpose of HOPE Course

PEER

- To enhance hospital based preparedness and response in Asia.
- To coordinate engineers, clinical & administrative leaders in hospital based disaster risk management together:
  - Principles of disaster risk management
  - Working together to make steps toward preparing each hospital to respond to disasters and MCI's

HOPE Course Objectives

PEER

Performance Objectives:

By the end of the course, depending on the Disaster scenario, the participant will be able to:

- Conduct a vulnerability assessment of the hospital
- Develop a hospital preparedness and response plan
- Conduct a disaster response

Program for Enhancement of Emergency Response-PEER

PEER

Principal Courses

- MFR
- CSSR
- HOPE

Instructor Workshops

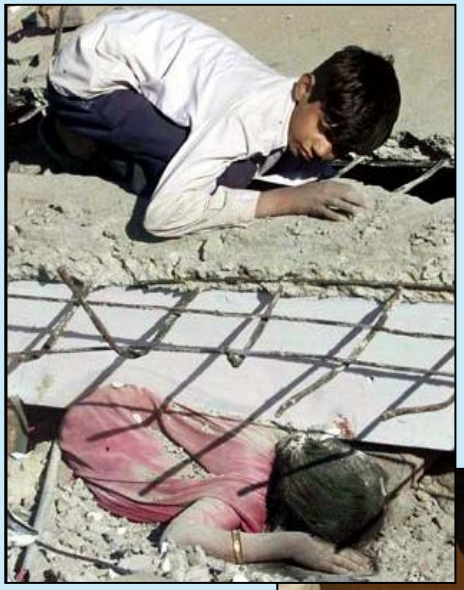
- TFI
- MFRIW
- CSSRIW
- HOPEIW

Subsidiary Course

- Canine SAR

Relationship of PEER Courses

PEER



Disaster

CSSR
Extraction

MFR Medical first responder

HOPE Hospital

HOPE Development

PEER

- Funding - USAID OFDA
- ADPC
- curriculum by Asians for Asians
- NSET
- JHU (CIEDRS) - course review

adpc

HOPE implementation

PEER

1. Agreements w/ national authorities
2. Cooperation and support given to identified institutions
3. Delivery of Regional, Sub-regional, and National Courses

HOPE implementation

PEER

1. HOPE TFI IW
2. OFDA supports in the national implementation of HOPE through grants, materials and expert guidance
3. Monitoring /Evaluation (Standardized)
4. Network of HOPE Experts across Asia

HOPE Bangladesh

PEER

- MOH & NIPSOM
- Sub-regional HOPE course in July 2004
- National HOPE course in Dhaka, March 2005

HOPE Indonesia

PEER

- MOH & National Medical, Hospital and Surgeons' Associations
- >15 national courses
- Disseminated by region
- Financial Sustainability

HOPE Indonesia

PEER

- *>20 HOPE grads deployed to Aceh tsunami*
- *1st functional hospital w/in initial 24 hrs*
- *2nd Bali Bomb blast utilized HOPE grads*
- *Translated to Bahasa Indonesia*

HOPE Philippines

PEER

- Department of Health (DOH)
- Office of Civil Defence (OCD)
- Region VI
- Most HOPE Instructors
- Assists in HOPE courses internationally
- 2004 landslides, ULTRA stampede, Leyte landslide, Mercury poisoning, typhoon Frank

HOPE Philippines

PEER

- National Adaptation by DOH-HEMS (Health Emergency Management Staff)
- Output is an updated hospital emergency and response plan for hospitals

HOPE India

PEER

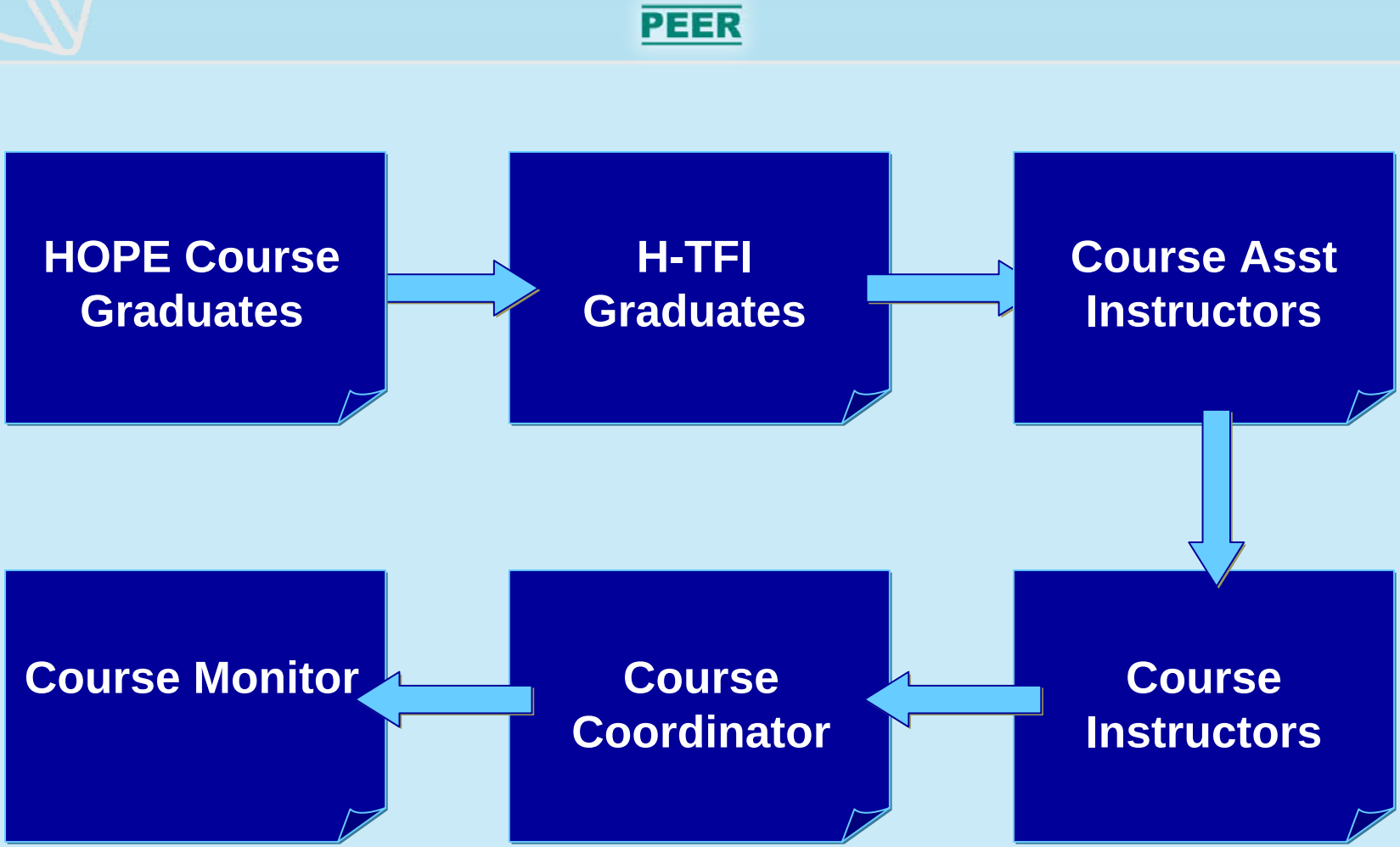
- HOPE program EMR, MOH
- 3 HOPE-TFI Courses (Delhi, Pondicherry, Calcutta)
- Local government and WHO funding

WELCOME
PLANNING WORKSHOP
HOSPITAL EMERGENCY MANAGEMENT

Welcome Guests, Participants & HoPE Course Instructors
to the
Hospital Preparedness for Emergencies (HoPE) Course
THE RESIDENCE HOTEL, ILOILO CITY OCTOBER 19-21, 2005
in collaboration with the
•DEPARTMENT OF HEALTH •OFFICE OF CIVIL DEFENSE

HOPE

PEER Instructor Development Process



Hospital Emergency Preparedness and Response

PEER

- Asian Disaster Preparedness Center (ADPC)
- Conducted annually for non-PEER member countries
- Graduates from non-PEER countries: South Africa, Malaysia, Hongkong, Thailand, Fiji, Maldives etc.

HOPE 2nd ed.

PEER

- February 2008
- Update and include other hazards
- First course was earthquake oriented
- Updated with a multi hazard approach

PEER

Earthquake

Fire

Flood

Strong winds

Table 2. Structural Damage Assessment Tool

Level of Damage to Structural Elements (for Each Floor)
Building ID: **Floor No:**

Vertical Elements

Element Description	N	L	M	H	UNK	NA
Racking of Main Walls						
Racking of Cripple Walls						
Buckling, Crippling, Tearing of Steel Beams, Columns or Braces						
Spalling or Cracking of Concrete Columns or Beams						
Column Crushing Due to Overturning or Discontinuous Lateral						
Resisting Elements						
Diagonal Cracks in Columns						
Cracks in Shear Walls						
Percentage of Shear Walls With Cracks %						
Rocking of Shear Walls						
Damage to Shear Wall Coupling Beams						
Infill Walls Damaged or Fallen Out						

Horizontal Elements

Element Description	N	L	M	H	UNK	NA
Roof Collapse % of Diaphragm						
Floor Collapse % of Diaphragm						
Loss of Vertical Roof Support % of Roof Area Affected						
Tearing of Diaphragms at Other Points of High Stress % of Diaphragm						
Damage at Re-entrant Corners						
Damage to Collectors at Walls						

Connections for Steel Structures

Element Description	N	L	M	H	UNK	NA
Beam-Column Connection Damage (Including Panel Zones)						
Column Splice Damage						
Damage to Brace Connections						
Damage to Column-to-Foundation Connections						
Damage to Connections of Precast Elements Structural Elements						

Overall Vulnerability Rating of Floor:

H M L N

Operational and Functional Components Assessment Tool

Table 1: Level of Risk for Non-equipment OFC Elements

Priority	OFC elements	Location	Quantity or area	Level of Risk			Engineer Required	Observations
				Life Risk to	Loss of Property	Loss of Function		
	Air conditioning	Ceiling / windows						
	False ceilings	Everywhere						
	Water heater Shelving	Service room Storage areas						
	Medium height partitions	Workstations						
	Hanging/ suspended florescent lights	Office, lobby and corridors						
	Interiors	Everywhere						
	Facades	Building exterior						
	Cornices	Building exterior						
	Chimneys	Building roof						
	Glass	Doors and windows						
	Antennas	Building roof						
	Other (specify)							

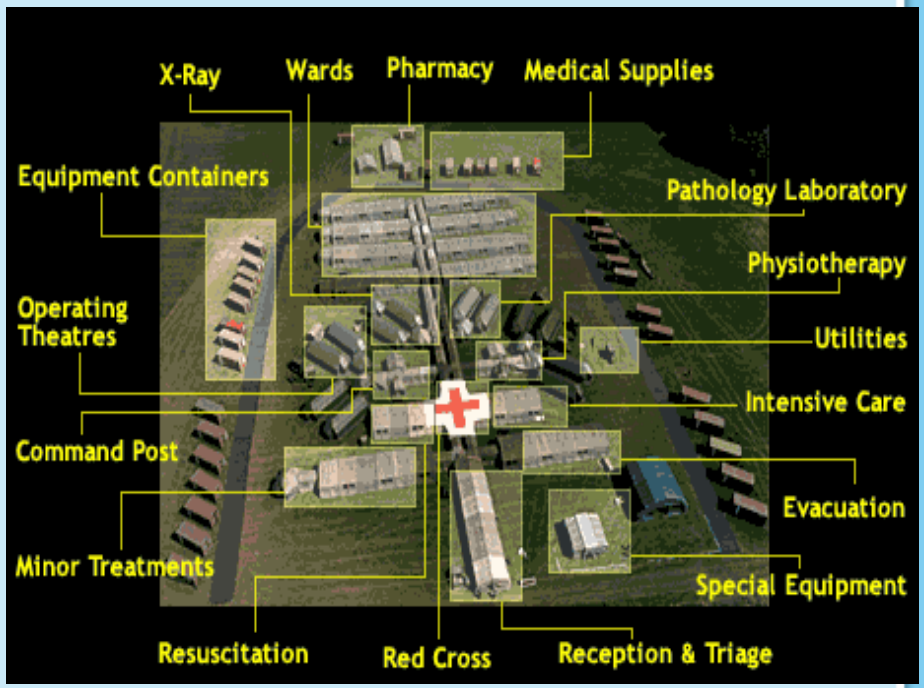
Note:
Level of risk is in terms of H (High), M (Moderate), and L (Low).
Observations column should describe general condition of the element.

HOPE Future

PEER

- Assessment of structural and non-structural hospital components

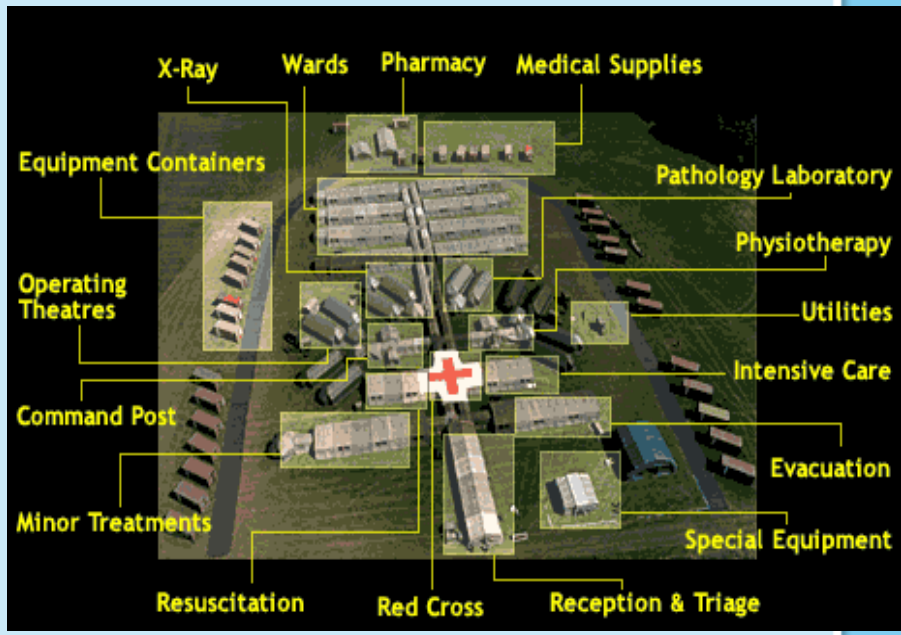
- Assessment & recommendations are carried out



HOPE in the Future

PEER

- Continuous national training
- *HOPE-trained decision makers in Hospitals*
- *Hospital emergency plans updated*



HOPE approach & Hospitals Safe from Disasters

PEER

Stay and defend concept – maintain hospital's vital functions

Partial evacuation maybe better than total evacuation of partially damaged hospitals.

Avoiding tent hospitals and using parts of a hospital w/o structural damage.

Summary

PEER

A training module for hospital emergency managers.

Hospital preparedness applied in resource-limited health systems

Summary

PEER

HOPE Assessment Tools are significant paradigm shifts in a hospital's response after earthquakes and other hazards -- many lessons in the management of such disasters in Asian health care delivery systems.

PEER Website

PEER

ted.herbosa@gmail.com

http://www.nset.org.np/peer