



## Newsletter /Circular 180 | November -2011

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Participants at our PHG seminar 2<sup>nd</sup> of October 2011 in Tokyo

Dear Members and Guests

## 1. Executive Summary of the PHG Seminar in Tokyo October 2<sup>nd</sup> 2011

To focus on: „safety and security“, made our Seminar in very actual. The complexity of earthquake, tsunami and damage to a nuclear power station, opened a new dimension of destruction. We all have been shocked, seeing pictures including facts and figures. Each of us started to reflect the extent of needed re-evaluation in other countries.

Here very shortly the papers which are in full length on our web site:  
[www.uia-public-health-group.org](http://www.uia-public-health-group.org)

### Part A Normal Disasters

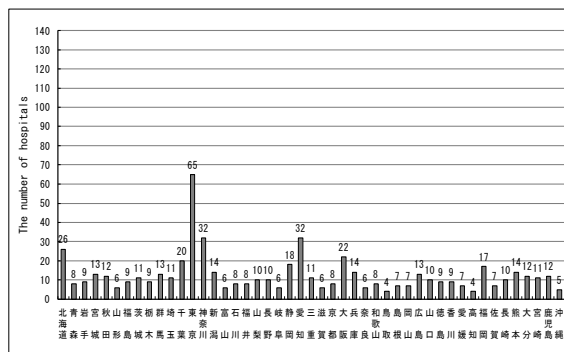
**Jostacio LAPITAN (WHO): „CASE STUDY OF 2 HOSDPITALS IN KOBE, JAPAN“**

Magnitude:	7.3	(Earthquake 17 <sup>th</sup> of January 1995 in Kobe)
Dead:	6433	persons
Injured:	43'792	persons
Damaged/destroyed:	250'000	houses
Total damage cost:	100	Billion US\$

Health facilities should always remain functioning. Therefore the preparedness for disasters have been analysed carefully. Big hospitals like, the University- and the Red Cross hospital in Kobe had resisted the earthquake. We learned, that they would not resist a tsunami.

**Kana EGAWA: „FUNCTIONAL CONTINUITY FOR DISASTER BASED HOSPITALS“**

Based on the experience of Kobe, 589 resisting hospitals have been constructed since 1995.



The number of new hospitals is enormous

The Tsunami in March 2011 however destroyed 54 of them. The hospitals (above water level), had still enormous problems to remain functioning: No power supply, no fresh water during the first week. The Tsunami had erased everything. In the future: Room for 200 extra patients has to be added. One of the ideas is, to extend corridors at strategic locations, ready to be equipped within short notice.

**Hans EGGEN: „PREPAREDNESS FOR A DISASTER IN SWITZERLAND“**

Director of the UIA WP Public Health

Risk maps have to be up-dated continuously. Still disasters happen. We know that casualties after disasters require extra space. Therefore each hospital in Switzerland has an underground shelter for 150 beds. What about refugees? To place them in tents without any sanitary installations is not acceptable, especially in winter. We have built in each school a shelter with the necessary rooms, fully equipped, to be served by the civil services.

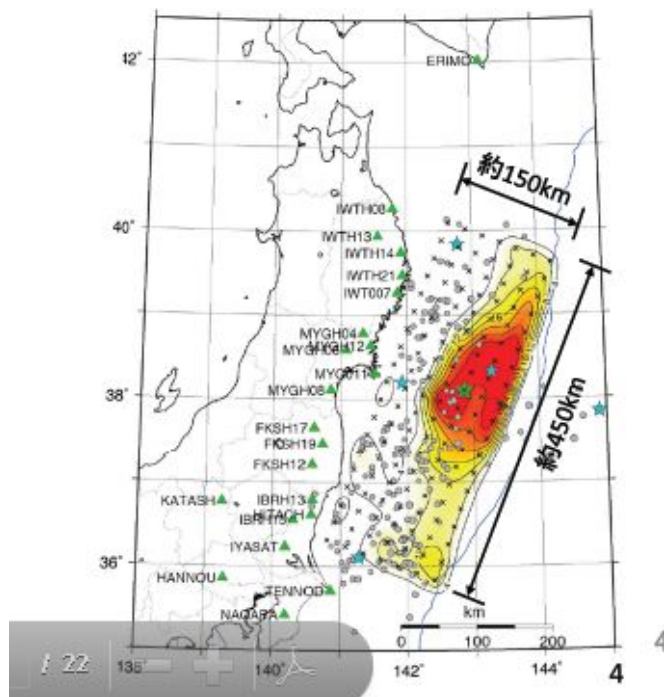
## Part B Extraordinary disasters

### Kenichi KOBAYASHI: "DAMAGES BY THE GREAT EAST JAPAN EARTHQUAKE"

National Institute of Public Health,

Magnitude: 9.0 (earthquake: 11<sup>th</sup> of March 2011)  
 Dead: 20'001 persons  
 Injured: 5929 persons  
 Destroyed: 97'932 buildings  
 Damaged: 325'667 buildings  
 Complex cause: Earthquake, tsunami, nuclear power station

The total extent of the destruction is enormous. Also infrastructure has been washed away by the tsunami. New roads, water mains and power lines are required.



Fresh water was available after one week however missing sewers are very delicate. Due to an extreme power shortage in Japan, suppliers could not produce and material could not be transported. The biggest problem however was to obtain extra and qualified staff.

### David ALLISON: „CASE STUDIES IN EMERGENCY AND DISASTER IN USA"

Professor at Clemson University USA

At first a recently completed emergency hospital has been analysed. Based on this perception students developed an ideal model for a clinic which would be adequate for all risks. Such studies become more and more important in the USA.

### Jasmin Ara BEGUM: "SAFETY ASSESSMENTS IN BANGLADESH"

Professor, Ahsanullah University In Dhaka

Cyclone, flood, earthquake and landslide are affecting Bangladesh every year. Research supported by WHO and World Bank with guidelines to plan and reconstruct primary health care facilities (PHC's) is therefore essential.

#### Disaster prone areas in Bangladesh

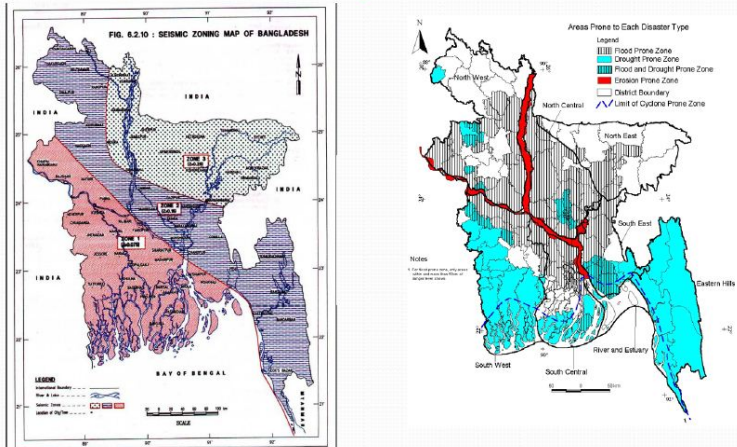


Figure 1: Seismic Zoning Map of Bangladesh (Source:BNBC 1999) and Areas Prone to Various Disasters Bangladesh (Source:NWRD 2001)

### Philip Patrick SUN: "NEW OBJECTIVES IN CLINICAL UNDERSERVED AREAS"

Architect and Planner, Administrator IPDS and Delta Health Centre USA

Priorities in healthcare planning (new in USA) support underserved areas like the Delta of the Mississippi. A large rural zone is also prone to tornados and floods. Therefore the planning should produce new clinics with lean processes, useful also in emergencies.

### Ruka KOSUGE: „ JAPANESE EARTHQUAKE SIMULATION TEST"

Architect at the National Institute of Public Health in Japan.

With an "E-defence" shaking table and a mock-up (scale 1:1) containing important rooms of a hospital, earthquake effects can be filmed: Short and heavy ones or very long earthquakes with smaller magnitude. The effects are disastrous. However "new foundations" can preserve buildings. Furniture is still pushed around. Conclusion: If the wheels on beds or trolleys would be fixed properly, no harm would be done to patients.



full scale mock- up containing important rooms of a hospital

### Comment by Hans Eggen

The hospital visit proved, that this information has not yet reached the hospital staff. Such films will therefore become a useful instruction for all concerned persons.



## 2. Summary of the IHF conference in Dubai (8. - 10. November 2011)

**Hans Eggen** (Switzerland) : Introduction and Moderation

The IHF (International Hospital federation) is the global association of healthcare organizations, which includes in particular, but not exclusively, hospital associations and representative bodies as well as their members and other health care related organizations. As the worldwide body for hospitals and health care organizations it develops and maintains a spirit of cooperation and communication among them, with the primary goal of improving the health of society.

This year we have received the chance to present from the side of the UIA WP Public Health in one session a contribution to “Design for new qualities in health care facilities in a fast changing environment” For this purpose we have also distributed a questionnaire among the audience to find out which subject would be of most interest and have sheared the result during one of the discussions.

**Jonathan Erskine** (United Kingdom)

Research Associate, Centre for Public Policy and Health, Durham University  
Executive Director, European Health Property Network

“TRANSFORMATIONAL CHANGE IN HEALTH SERVICES , CONSEQUENCES”

Key words:

- Financial crisis
- Low carbon healthcare
- Continuous quality improvement

Abstract:

Two of the key challenges facing health services across Europe are how to bridge the gap between healthcare need and available resources, and how to meet European carbon reduction targets. Health estates professionals will have to adopt transformational methodologies if they are to contribute effectively, using principles of innovative change. Two examples are given: the North East Transformation System (NETS, UK) and the EU Commission-funded Low Carbon Buildings-HEALTHCARE Network (LCB network). The NETS is a region-wide programme of continuous health system quality improvement involving all elements of the NHS in north east England: primary and community care organisations, acute hospital and mental health trusts and the region’s ambulance service. The effectiveness of the NETS approach is being evaluated through a 3-year project involving researchers from Durham and Newcastle universities, funded by the National Institute for Health Research – <http://www.phine.org.uk/group.php?gid=275>.

**Dr. Zakia Shafie** (Egypt)

Prof. Emeritus, Arch. Dep. Faculty of Engineering, Cairo University

“CULTURE CONSTITUTES A HIDDEN DIMENSION IN DESIGNING HOSPITALS”.

Key words:

- The relation between the culture, the hospital and the design

Abstract:

Different Paradigms govern Architecture Design Concepts including Hospital Design. Hospitals in the modern era are mainly influenced by the fact that science and technology have become the dominant factors governing and shaping hospitals into architectural prototypes. Culture’s influence now is manifested in the diversification of applying different meanings to the same design objective. Privacy is a value and a need that forms an important design objective. Yet the meaning is differently interpreted in hospital spaces all over the world according to habits stemming from cultural traditions and beliefs. Implementing privacy as an objective in the following hospital spaces; Nursing Units, Waiting areas for Patients/visitors, and Clinical departments is undertaken in different cultural contexts in order to demonstrate the diversification’s meaning in each implementation.



**Thomas Riffel (Switzerland)**

Head of Building Technologies Life Science at Siemens Building Automation Business Unit.

**INCREASE SAFETY AND MAXIMIZE EFFICIENCY FOR HOSPITALS**

Key words:

- Maximise efficiency
- Increase safety for buildings
- staff and patients safety

Abstract:

These days Hospitals must possess the insight and knowledge to effectively implement actionable strategies to remain competitive in the international arena. The performance of the facility as well as energy efficiency and patient security are recognized today as differentiation characteristics respectively competitive advantages in the global competition. The presentation gives an overview how a state-of-the-art Building Management System (BMS) enables to accomplish energy and cost savings in Hospitals and how to build a sound and secure environment for patients and staff.

- How BMS system leverage requirements of a state of the art hospital.
- Making intelligent solutions available in the hospital infrastructure.
- Patient and staff safety in case of an emergency e.g. fire.
- Single user friendly operation of surgery room or patient room service.
- Monitoring critical environment e.g. surgery rooms, blood banks others.
- Energy saving using intelligent solution concept

**Prof. Lueder Clausdorff (Germany)**

Professor at the University of Applied Sciences in "Giessen"

**"NEW TECHNOLOGY IN THE OPERATION ROOM: THE HYBRID OPERATION ROOM COMBINED WITH MRT, CT, ANGIOGRAPHY "**

Key words:

- Hybrid means the combination of different things.
- Hybrid OR with MRT or with CT or Angiography installations

Abstract:

The name hybrid comes from the combination of two different kinds of things. This is also known in the car technology. In this case we have two engines: one electro engine and one petrol engine. In the hybrid OR we have the equipment for operations and the equipment for imaging methods. Hybrid ORs are operating rooms for special diagnostics and surgery with MRI For neurosurgery, with a CT for orthopaedic and emergency surgery and with angiography for heart surgery.



See next page

Knut Bergsland (senior advisor at SINTEF Health Research in Trondheim Norway)



### 3. The next UIA Public Health Group Seminar

#### **Seminar 2012 Oslo, Norway, March 22-24.**

UIA PHG will arrange the 2012 seminar in cooperation with the Norwegian Architects Forum for Health

Care Building and The Norwegian Hospital- and Healthcare Association, as an integral part of their annual hospital and healthcare planning conference.

The conference will seek to highlight Nordic experiences in hospital planning and building, but will of course have a number of international presentations along the main theme: *Keeping up hospital quality in an era of financial problems and cost control*

The three day seminar will include keynote speeches, sessions on the different themes, and hospital visits. The conference language will be English, but some presentations may be given in Norwegian.

We call for presentations from the UIA PHG members, especially on the following themes:

- Acute services and the impact on the hospital
- Technology development and its impact on hospitals
- Flexibility – new forms needed?
- Is cost more important than quality in hospital planning and building?
- Energy efficient hospitals of the future – challenges for other planning parameters?
- Patient safety in hospital building

Presentations should be max 30 minutes, including time for a few questions and answers. There will be a joint UIA and Architects Forum scientific committee to select presentations, if needed.

**Abstracts may be sent to: [Knut.Bergsland@sintef.no](mailto:Knut.Bergsland@sintef.no) within November 11, 2011.**

Venue: Oslo congress centre

Conference prices are not finally decided, but will be in the range of NOK 5 500, plus or excluding dinner on Friday.

Hotel accommodation close to the conference venue has been reserved in two price ranges: NOK 1100 - 1300 and NOK 1000 per room per day.

Dear Members and Guests

With this Newsletter starting with a report about our last seminar in Tokyo, then the IHF conference in Dubai I try now to bridge over to the next seminar to take place in 2012 in Oslo. Please fix the dates in your agenda: March 22.-24. 2012. All this information is also on our web site: It is now the moment to submit your abstracts for an eventual presentation in Oslo before end of November.

kind regards

**Hans Eggen**

Director of the UIA Work Programme Public Health